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CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND  
PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

EDITED BY

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# EDITORIAL NOTICE.

The present is the last volume of the "Retrospect", which we propose to issue. A general index for the preceding four volumes is appended, so that the work may be relinquished in as complete a form as possible.

It is not, of course, without considerable regret that we allow "Braithwaite's Retrospect" to lapse after a successful life of more than sixty years. On the other hand we have the satisfaction of knowing that it has supplied a distinct want in the past, and for this reason alone we should be sorry to see it outlive its usefulness. At the present time medical journals regularly provide for their readers abstracts and summaries of medical literature from all parts, with the consequence that they each contain a retrospect of news which was formerly only to be found in more special publications. For these reasons we have thought that no useful purpose would be served by continuing the "Retrospect"—even in a re-organised form.

In conclusion, it is a pleasure for the Editors to have the opportunity of gratefully acknowledging the support which the "Retrospect" has for so many years received from the medical reading public, both in this country and in America.

LEEDS, *June, 1901.*

E. F. T.

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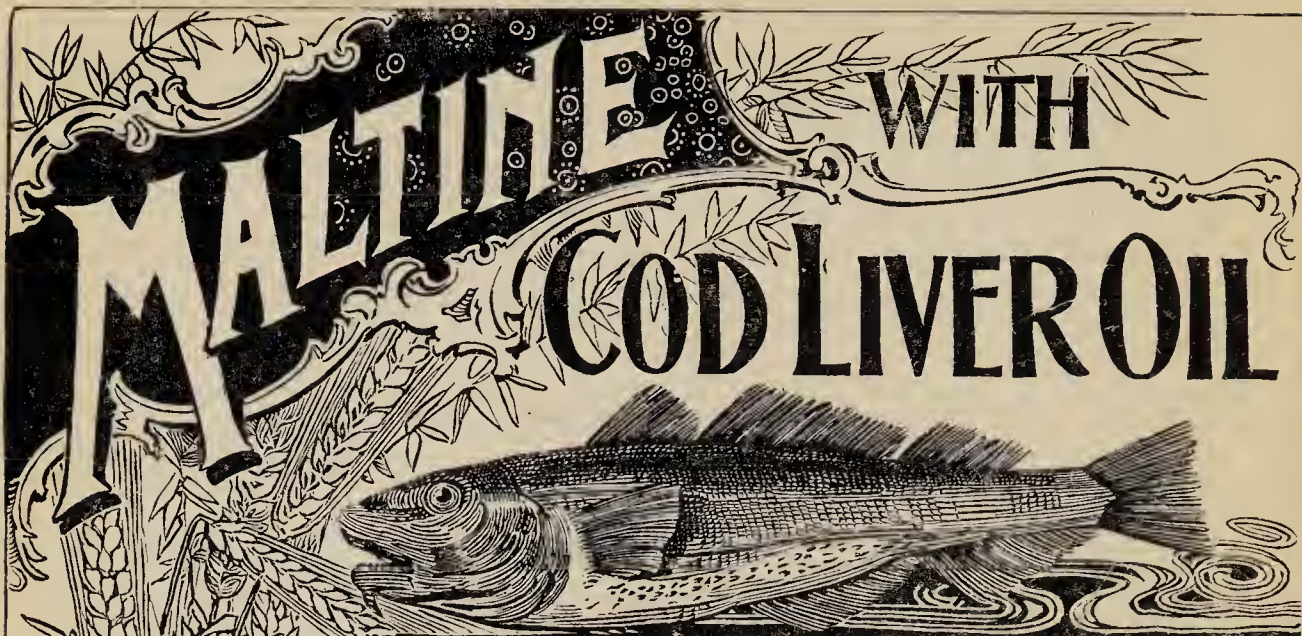
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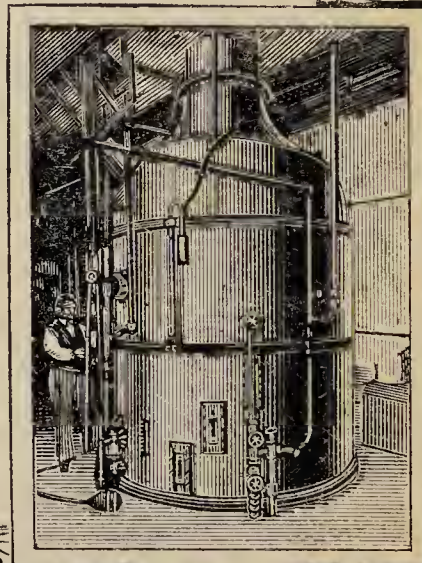
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# Synopsis.

ABSTRACTS AND OTHER SHORT ARTICLES FROM THE  
MEDICAL JOURNALS, SHOWING THE MOST IMPORTANT  
INDICATIONS OF TREATMENT, PUBLISHED BY  
DIFFERENT WRITERS DURING THE HALF YEAR.

ARRANGED ALPHABETICALLY.

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## General Medicine and Therapeutics.

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### ALBOFERIN.

Kluczycki has recorded some excellent recoveries in his clinic by using alboferin, another iron, phosphorus, and albuminate mixture. It is easily absorbed, stimulates the appetite, and almost magically increases the hæmoglobin. It is, therefore, indicated in all forms of anæmia, and convalescence after infectious disease, gastritis with hyperacidity, scrofula, rhachitis, &c. It is given in powder, one to two table-spoonfuls a dose, or in a capsule containing 0.25 gramme. Woerz bears equally laudatory testimony in midwifery practice. (Medical Press and Circular, June 5, 1901.)

### ALBUMIN, PRODUCTION OF CRYSTALS OF.

Dr. Bradshaw read a note, before the Liverpool Medical Institution, on the production of crystals of albumin by G. Hopkins's method, and showed well-formed crystals obtained from the white of eggs and from horse's serum. The latter were 0.5 mm. in length, and formed hexagonal prisms terminated at one end by a hexagonal pyramid and at the other by a basal plane. With polarised light they were seen to be bi-axial, and with crossed Nicholl's they showed straight extinction. Elementary analysis of the egg-albumin crystals washed free from ammonium sulphate by means of acid solution of sodium chloride and dried at 110 deg. C. showed percentage of carbon as 51.66, and H. 6.71. These percentages were slightly lower than Hopkins obtained with alcohol coagula. The egg-albumin crystals appeared to be embryonic, and were too small for their optical characters and their form to be determined. (British Medical Journal, December 8, 1900.)

**AMMONIA POISONING.**

(By Dr. Walker Downie.) The local effects which follow from the drinking of liquid ammonia naturally depend largely on the strength of the solution. When the fluid taken is that usually employed for domestic purposes, there is, as an almost immediate result, acute inflammation of those parts with which the fluid has come into contact, and this is accompanied by considerable pain. In some cases the mucous membrane of the palate, fauces, and pharynx may not only be deeply congested, but separation of the epithelium may occur, and the surfaces may bleed readily on being touched. This inflammation is almost always followed within the first twenty-four hours by the appearance of a fibrinous exudation, which is usually found over the uvula, free border of the palate, on the lip of the epiglottis, and over the arytenoid and aryepiglottic folds. In all cases which I have had occasion to examine, the surfaces so injured healed satisfactorily, and no scar remained to indicate the site of the injuries received. But while this is the case in connection with the fauces, pharynx, and larynx, serious cicatricial changes very frequently occur within the gullet, so frequently, I think, as to make this the rule; and these changes take place even in those cases where the injuries to the upper parts have been considered of a trifling character. The result of the formation of these cicatrices is that deglutition is interfered with. This cicatrization appears to set in within a comparatively short time after the parts have been injured—in from one to three months after the swallowing of the ammonia. Another point which I have noted in almost every case of the kind which has come under my observation is that there are two strictures—one close to the mouth of the gullet, and a second at a variable, but very distinctly lower, level. Treatment by gradual dilatation in this form of stricture is, if resorted to early, usually followed by most satisfactory results. (*Glasgow Medical Journal*, January, 1901.)

**ANTI-DIPHTHERITIC SERUM AS A PROPHYLACTIC.**

Dr. Thresh, in his annual report for 1900, quotes some results which were obtained by Dr. H. R. Brown, of Maldon, who employed it to prevent the spread of the disease among the members of three households on the occurrence of a case of diphtheria therein: "I beg to report that I have during the past quarter made considerable use of antitoxin as a prophylactic in homes affected with diphtheria in the Maldon Rural Sanitary District. In case No. 1 four young people received prophylactic doses. Two left the house and did not receive doses. These two, and these two alone, developed the



disease. In case No. 2 six injections were given. On this occasion, again, two members of the family were absent at the time of my visit. One of these, and none of the others, took diphtheria. In case No. 3 (a home for children) there were nineteen inmates in the house. The disease was diagnosed when two children were ill. The other seventeen all received injections, and not another case has appeared." On account of the expensive nature of the drug, Dr. Brown recommends his Sanitary Authority to defray the expense of the treatment, such prophylactic measures being calculated to benefit the community at large almost as much as the families affected by the disease. J.E.B. (Abstract in Treatment, May, 1901.)

### APOMORPHINE.

This is a derivative of morphine, and is obtained by heating morphine hydrochloride or codeine hydrochloride in sealed tubes with hydrochloric acid. The hydrochloride is the salt in use. Given hypodermically it is the most powerful emetic known. It will completely evacuate the contents of the stomach in less than one minute without producing cardiac depression. The ordinary dose for the purpose is a tenth of a grain. Given by the mouth it produces neither nausea nor emesis, but acts as a powerful expectorant. The dose for this purpose is from 1/10th to 1/4th grain. If the 1 to 100 solution is employed, it may be made into a linctus or mixture with syrup of tar. Apomorphine speedily gets darker on being exposed to light, but this change in colour in no way impairs its efficacy. It may be prevented by the addition of a drop or two of dilute hydrochloric acid. (From Dr. Murrell's paper in the Medical Press and Circular, December 10, 1900.)

### BLOOD STAINS.

Dr. Moser (*Vrtljschr. f. gerichtl. Med.*, Berlin, 1900, Heft 4) advocates the following method as a means to enable us more readily to identify the corpuscles in blood stains. If the blood stain is still moist, he employs the solution advocated by Kaiserling for the preservation of pathological preparations, which, however, is slightly modified by him, namely, formalin, 5.0 ; liq. potass. acet., 5.0 ; potass. nitr., 2.0 ; aq. dest., 250.0. The elements of the blood retain their form in this fluid for a long time, and also are easily stained in it by a watery eosin solution. The substance to be examined is mixed with the above solution in the proportion of 1 to 4, and after a time a drop of the mixture is placed upon a microscope slide ; to this is added some eosin solution, and the whole is then protected by a cover-glass and examined. If evaporation

is prevented by sealing the edges of the cover-glass, the staining is prolonged and becomes more effective. This method supplies an easy and reliable means by which we can recognise, in a certain manner, the presence of blood corpuscles, and also render their structure and characteristic forms visible. In the examination of dry stains the above method is not applicable, and the author recommends that such stains should be treated with a mixture of equal parts of ether and alcohol, this solution being allowed to act upon the stain for from half to two hours, according to its thickness. After this, a small portion of the stain, be it on linen, wood, paper, &c., is detached in as thin a layer as possible, and placed in the solution which Kaiserling has also suggested, but in which the amount of acetate of potash is slightly reduced by Dr. Moser, namely, water, 100; liq. potass. acet., 10.0; glycerine, 20.0. The substance is placed in a drop of this solution and spread out in as thin a layer as possible, upon a microscope slide, with the addition of some eosin solution. It is then covered with a cover-glass and examined. The staining solution should be allowed to act for some time, and Dr. Moser states that by this method blood corpuscles are easily recognised in all cases where they are present. (From abstract in the *Edinburgh Medical Journal*, February, 1901.)

#### BLOOD, SPECIFIC TEST FOR.

(From a preliminary note by Drs. H. F. Nuttall and E. M. Dinkelspiel.) The recent discovery of specific precipitins which act upon various bacterial products—milks, peptone, egg albumen, and different kinds of blood—has led us to undertake the investigations which are here presented in abstract. We have injected rabbits intraperitoneally with horse, dog, ox, sheep, and human serum, and have been able to observe the formation of specific precipitins in their blood. The antisera from these animals have been tried on twenty-four different bloods with uniformly negative results, when we except the slight action exerted by the antiserum for human blood upon the blood of two species of monkey. In this case a slight reaction was obtained which could not be compared in intensity with that shown on the addition of the antiserum to human blood. A slight clouding was produced by the antiserum for ox blood when added to sheep's serum and *vice versa*. Some animals already gave an effective serum after the third injection. Bloods which had been dried for two months and preserved at room temperature, either in the dark or exposed to diffuse daylight, or in the dark at 37 degs. C., as also such as had been exposed for a week to the action of sunlight, as also serum from a blister the result of a burn, all gave a positive reaction when tested



with their particular antiserum. Some human blood which had undergone putrefaction for two months, when diluted 1 in 100 with normal salt solution, gave a marked reaction with the antiserum for human blood, which it did not do on the addition of other blood serums. A rabbit which was treated with some old anti-diphtherial horse serum preserved with tricresol in a corked bottle for two years and seven months, yielded a specific precipitin for horse serum. Positive results were also obtained by treating a rabbit with a pleuritic fluid which had been kept in the laboratory for five to six months, and preserved by the addition of chloroform. A slight but distinct reaction was obtained with human nasal and lachrymal secretion. Dilutions of human blood (1 in 100) mixed with an equal volume of dilutions of the blood of the ox, sheep, dog, and horse, and tested for human blood, all gave a positive reaction, and *vice versa*. Control experiments with normal rabbit serum, as also with non-homologous antisera, gave negative results. We conclude that these precipitins are specific, although they may produce a slight reaction with the serums of allied animals. The new test can be applied to a blood which has been mixed with that of another animal. We have in this test the most delicate means hitherto discovered of detecting and differentiating bloods, and consequently we must hope that it will be put to forensic use. (*British Medical Journal*, May 11, 1901.)

## CHLORETONE.

(From Dr. A. A. Stevens' paper.) During the past six months I have used chloretone in at least fifty cases in which sleeplessness was an important symptom. The best results were obtained in the insomnia which was unassociated with organic disease. Thus, in five cases of neurasthenia in which the drug was used a single dose of twenty grains at bedtime would generally produce refreshing sleep lasting from six to eight hours. In two of these cases the action of chloretone was especially noteworthy, since opium gave rise to excitement, and chloralamide and trional, while not followed by any untoward effects, failed to secure the desired result. In a case of acute melancholia, with delusions of persecution, it also acted favourably. In chronic heart disease, when the symptoms were not very severe, chloretone was often useful, but when anxiety, restlessness, dyspnoea, and præcordial distress were prominent symptoms, morphine hypodermically was a far more satisfactory remedy. In chronic nephritis it generally gave good results. In no case did chloretone give rise to any outward symptoms or to unpleasant after-effects, except in a few instances in which it caused a feeling of drowsiness on the day



following its administration. Nausea and vomiting were never excited by it. As a hypnotic its action is prompt, sleep usually following in from half an hour to two hours after its administration. The drug seems to have but little influence on the circulation ; even in cases of chronic heart disease there was no evidence of a depressant action. It often loses its power to induce sleep when used continuously, and in this respect it is probably inferior to opium, chloral, sulphonal, or paraldehyde. In several cases in which it had been very efficacious at first it completely failed after it had been exhibited for three or four successive nights. In insomnia due to pain it is of little value, and in insomnia due to extreme mental excitement it is inferior to hyoscine and paraldehyde. Repeated observations established the fact that it seldom was successful in the presence of fever, at least when the temperature was above 102 deg. or 103 deg. F. In ordinary doses it appears to be a perfectly safe drug. I have never given more than thirty grains at a single dose, but Houghton and Aldrich state that as high as sixty grains have been given at one time without producing any untoward symptoms. (New York Medical Journal, February 23, 1901.)

#### DIABETES, DIETETIC TREATMENT OF.

[The following is taken from Dr. N. S. Davis's paper:—] Gerhard's test with perchloride of iron must be constantly made. If it gives a positive reaction, or if there is evidence of acetone or diacetic acid in the urine a greater modification of diet should be made. Indeed, it is safest to enforce Ebstein's rule that under these conditions the amount of albuminoids eaten should be lessened and the amount of carbohydrates increased. The presence of these substances in the urine signifies a great liability to coma. If the reaction is found when severe cases first come under treatment sugar only should be excluded from the diet, and the amount of albuminous food should be limited. At the same time the intestines should be cleaned and albuminous indigestion—if it exists—corrected. Alkalies and alkaline mineral waters are also useful under these circumstances.

A point in treatment on which I wish to place stress is that excellent results can often be had by intermittently restricting the diet closely. The advantage of this is not generally appreciated. From two to six times a year this should be done for from two to four weeks at a time. In most cases it is better on one or two days in every week to place patients on a diet which is limited in quantity and much restricted in character. For instance, if a patient is permitted a liberal amount of meats, non-amylaceous vegetables and a little bread, or occasionally

a potato, it is well once from five to seven days to prescribe a day of fasting, when only a modicum of albuminous food, a little salad, and possibly a small amount of nut-bread are permitted. Water should at these times especially be drunk freely. These days and the longer periods of restriction remove for a time or greatly lessen the natural stimulants of the liver. In prescribing these days and periods of fasting, what has already been said of the significance of Gerhardt's test and of disgust for food and of dyspepsia must be remembered.

The following menu will illustrate what should be prescribed while a strict diet is maintained. On "fast days" a limited amount of these same foods should be recommended. Breakfast: Tea or coffee without sugar or cream, one egg and bacon, and two or three slices of nut-bread with butter (Chicago Sanitary Flour or a similar substitute for wheat flour). Dinner: Bouillon or broth; beef, mutton, or chicken; spinach, or asparagus, or wax beans; salad of lettuce or tomatoes, with cheese; black coffee without sugar. Supper: Tea or coffee without sugar or cream; meat or fish, or mushrooms; a salad of tomatoes or lettuce, or chicory, &c.; two or three slices of nut-bread. At bedtime or in the evening, an egg lemonade made with saccharine, can be given. Use as much butter as possible on bread and oil on salads; eat by preference fat meats. When patients keep a "fast day" it is best to prescribe only two meals a day, one at breakfast time and one about six in the evening. At noon, if it is desired, an egg lemonade made with saccharine, can be taken. The amount of food eaten at the two meals should also be limited. (*Journal of the American Medical Association*, December 8, 1900.)

## DIABETES, PANCREATIC PREPARATIONS IN.

Clinically, it has been found that pancreatic preparations have generally been useless; in other cases slight temporary improvement has occurred, but the evidence that the improvement in such cases has been actually due to the pancreatic preparation is not conclusive. In a few instances the administration of pancreatic preparations has been followed by a slight increase in the glycosuria. Pancreatic juice, pancreatic extract, and raw pancreas have been given by mouth, also liquor pancreaticus and various pancreatic preparations have been injected subcutaneously; but a review of the published records does not furnish any conclusive evidence in their favour. Portions of sheep's pancreas have been grafted under the skin of the breast and abdomen, but diabetic coma developed soon after the operation, and death occurred. Elsewhere I have published a short summary of the records of cases of diabetes treated by pancreatic preparations



up to 1898 ; and more recently a concise review of the subject, with references, has been given by Lépine (" Le Diabète et son Traitement," Paris, 1899, p. 59). Though the recently-acquired knowledge respecting the relation of the pancreas to diabetes has not led to any successful treatment of the disease by pancreatic preparations, it is not improbable that it may be the basis of some useful method of treatment in the future. (From Dr. R. T. Williamson's paper in the Practitioner, April, 1901.)

## DIABETES, THE TREATMENT OF.

Dr. R. T. Williamson read this paper before the Manchester Therapeutical Society :—The importance of varying the treatment (dietetic and medical) according to the form of the disease was pointed out. For practical purposes three forms might be recognised : (1) The mildest, in which a rigid diet caused the sugar excretion to cease ; (2) the more severe, in which the sugar excretion was not checked by a rigid diet ; and (3) the most severe form, in which the urine gave a dark brownish-red colouration with perchloride of iron. The dietetic treatment suitable for the three forms was described and the importance of discontinuing a very rigid diet in the third form was referred to. In the medical treatment of the milder forms of the disease Dr. Williamson had obtained better results from salicylate preparations than from other drugs, and he showed charts demonstrating the value of salicylates and the value of aspirin in markedly reducing the sugar excretion quite apart from any restriction of diet. In the most severe forms of the disease with a marked perchloride of iron reaction, he had obtained some temporary benefit from large doses of bicarbonate of soda (as recommended by Naunyn), and at the earliest stage of diabetic coma he occasionally had seen slight temporary improvement result from the use of very large quantities of the same drug.—Dr. J. J. Cox had also found salicylate of soda very useful in mild cases of diabetes.—Dr. Dreschfeld said that in the severer forms of the disease abstention from milk and bread was advisable so long as the weight of the patient kept up. He had found good to result from the use of salol and salicylate of bismuth, and also occasionally from antipyrine in doses of from 20 to 25 grains twice daily. (Lancet, June 6, 1901.)

## DIPHTHERIA : BACTERIOLOGICAL DIAGNOSIS.

[Dr. H. Winslow Hill makes the following remarks on the negative report :]—If the bacilli are absent from a given throat or nose it is of course impossible to find them in cultures taken therefrom, but unfortunately they may be present in the throat or nose and still fail to be found in the cultures ; hence, while



a positive report indicates clearly the presence of diphtheria bacilli, a negative report is by no means such good evidence of their absence, particularly in laryngeal cases. This is especially true of a single negative culture, but also, although to a less degree, of two or even three ; thus, very occasionally, a positive result may be obtained on the fourth or fifth culture, the earlier cultures being negative. From 5 per cent. to 10 per cent. of the cases finally proving positive fail to yield a positive result on the first examination. The absence of the bacilli once established is complete proof of the absence of the disease of diphtheria ; the difficulty is to establish their absence. Four or five negatives at least should be obtained (the more, the better) before a diagnosis of diphtheria is surrendered on bacteriological evidence alone. The clinical diagnoses made by the physician compared with the bacteriological results of the cultures show that diphtheria bacilli are found in about 60 per cent. to 70 per cent. of the cases which the physician designates as diphtheria, and in about 10 per cent. to 11 per cent. of the cases which the physician designates as "not diphtheria." The clinical diagnoses mentioned are those appended to the card by the physician at the time of taking the culture, and of course in many cases do not represent the final clinical diagnosis which he arrives at later on, but only the tentative diagnosis at an early stage of the disease. (Boston Medical and Surgical Journal, March 7, 1901.)

#### DIPHTHERIA, THE HEART IN.

The hearts of this series of cases were examined with great care and frequency, and the results of these examinations faithfully recorded. About 65 per cent. of the cases had some form of cardiac disturbance at some time during the progress of the disease. These disturbances were usually slight, and in a large majority of cases transitory, yet a knowledge of the condition of the heart played an important part in determining the prognosis and treatment as each case progressed. A soft systolic murmur was the most frequent abnormality noted, and was present in 984 cases. It was sometimes heard loudest at the base, sometimes loudest at the apex ; but in a majority of cases it was loudest over the mitral area. In some cases the murmur seemed to be due to cardiac dilatation, in a very few cases to an active endocarditis ; but usually to a lack of tonicity in the heart muscle. In 496 of these cases with systolic murmurs the heart's action was also more or less irregular. An irregularity in the heart's action was also of frequent occurrence, and was noted in 658 cases. The irregularities varied from cases of well-marked arrhythmia to the most fantastic combination of irregularity and intermittency. A peculiarity of the irregular

action of the hearts of diphtheria patients is the frequency with which the action changes. In some cases there is a simple irregularity in which the variations occur at regular intervals; these intervals may comprise three or four beats, or they may comprise sixty or seventy beats. In other cases the action may be fairly regular at one time, with only an occasional intermittency, and within a few hours be so tumultuous and irregular as to baffle description. Of the 658 cases in which the heart's action was irregular there were 496, as already stated, in which the action was also accompanied by a systolic murmur. There were 22 cases in which a *bruit de galop* or cantering rhythm was noted. This rhythm is always interesting, and was usually very perfect. Fourteen of the patients having this rhythm recovered and eight died. The irregularity of the heart's action is due to the action of the toxin of diphtheria or its by-products on the nervous system, and is a much more frequent sequel of nasal diphtheria than of the other forms of the disease. This is doubtless due to the more abundant supply of lymphatics to the nasopharynx. This anatomical reason for the greater severity of nasal diphtheria was pointed out by Rotch in 1889. In those cases—496 in number—having both a systolic murmur and an irregularity of action, the murmur was noted before the irregularity in 304 cases; and the irregularity before the murmur in 79 cases; and the murmur and irregularity were detected at the same time in 113 cases. In 111 cases the most noticeable peculiarity of the heart's action was its great weakness. In 478 cases the cardiac abnormality was present at entrance; in the others it developed in the hospital. In those cases in which the abnormality developed while the patient was under observation it could often be predicted by the peculiar booming character of the heart's sounds. (From Dr. F. G. Burrow's "Clinical Study of Diphtheria," American Journal of the Medical Sciences, February, 1901.)

#### DYSENTERY, ACUTE EPIDEMIC.

In several of the cases of acute dysentery which came to autopsy during my service at the First Reserve Hospital Laboratory in the Philippines, a bacillus apparently identical with that described by Shiga and by Flexner was found in the cultures. Comparing the cultures obtained from these cases with a culture of Shiga's bacillus dysenteriae, sent me from Japan by Professor Kitasato, they were apparently identical. I received in March, 1900, from Professor Kitasato 300 cubic centimetres of anti-dysenteric serum prepared at the Tokio Institute for Infectious Diseases. I am unable to give any opinion as to its efficiency in cases of acute epidemic dysentery, but from Drs. W. J. Calvert



and E. R. Hodge, U.S. Army, who have visited the Tokio Institute, I learn that this serum has given remarkably good results. Dr. Hodge, who spent a month last October in Japan, and visited the Tokio Institute for Infectious Diseases, writes me that the results in acute epidemic dysentery with this serum are second only to the results obtained with diphtheritic anti-toxin. We have observed two distinct types of dysentery in the Philippines—one amœbic dysentery and the other an acute dysentery—in a number of cases in which the bacillus dysenteriae of Shiga occurred. In addition to these two types, we have met cases of subacute and chronic dysentery in which neither the amœba coli nor the bacillus dysenteriae were found. (From Dr. J. J. Curry's paper in the Boston Medical and Surgical Journal, February 21, 1901.)

### DYSENTERY, ETIOLOGY OF.

(From Dr. Flexner's paper.) We may, I think, sum up the present knowledge of the cause of dysentery in the following way: (1) No bacterial species yet described as the cause of dysentery has an especial claim to be regarded as the chief micro-organism concerned with the disease. (2) It is unlikely that any bacterial species that is constantly and normally present in the intestine or in the environs of man, except where the disease prevails in an endemic form, can be regarded as a probable cause of epidemic dysentery. (3) The relations of sporadic to epidemic dysentery are so remote that it is improbable that the two diseases are produced by the same organic cause. (4) The pathogenic action of the amœba coli in many cases of tropical and in certain examples of sporadic dysentery has not been disproved by the discovery of amœbæ in the normal intestine, and in diseases other than dysentery. While amœbæ are commonly present and are concerned in the production of the lesions of subacute and chronic dysentery, they have not thus far been shown to be equally connected with the acute dysenteries, even in the tropics. In the former varieties, bacterial association probably has much influence on the pathogenic powers of the amœbæ. (Journal of the American Medical Association, January 5, 1901.)

### DYSENTERY, TREATMENT OF ACUTE.

(From Dr. W. J. Cruikshank's paper.) In all cases of acute dysentery, from the beginning of the attack until there is a subsidence of all the symptoms, the sulphate of sodium should be administered in drachm doses every three hours, dissolved in one or two ounces of distilled water, to which may be added ten drops of the dilute sulphuric, or aromatic sulphuric, acid.



Experience has proved conclusively the unprecedented results which may be obtained from the use of this drug in the manner described. The beneficial effects are shown in a very few hours after the commencement of its use, and in from twenty-four to forty-eight hours the patient's condition shows marked general improvement; the pain becomes less, the tormina and tenesmus rapidly subside, and there are diminution of the pulse rate and lowering of temperature. If tympanites is present, it is rapidly reduced; the stools become less painful and less frequent, the blood and mucous disappearing. At the end of forty-eight hours, in the vast majority of cases, the stools take on a biliary character. The treatment must now be continued steadily until the stools become nearly normal. When this result is obtained, the medicine may be gradually withdrawn; the average time required for the establishment of convalescence being from three to six days from the commencement of the attack. (New York Medical Journal, March 16, 1901.)

## FEEDING OF INFANTS.

Dr. Henry Dwight Chaplin, of New York, said that in preparing the substitute food there were three important factors, namely, (1) Selection of good cow's milk; (2) suitable modification of the milk; and (3) the choice of a diluent. The same milkman's supply of milk varied little from day to day in the richness of the cream. Dilution of cow's milk with wheat or barley gruel, in which the starch had been digested, broke up the curds and so greatly aided digestion. This gruel could be prepared by boiling a heaping tablespoonful of flour with a pint of water, cooling and adding an aqueous solution of diastase. From 9 to 16 ounces of the top milk should be dipped off into a pitcher. Food for an infant should be made up of from one-eighth to one-third of 9 ounces of top milk, or of one-eighth to one-third of 16 ounces of top milk, the remainder consisting of digested gruel. One part of sugar should be added to 20 or 25 parts of food. Rich milk would require to be diluted more than poor milk. Each additional ounce removed from the milk bottles reduces the fat in the top milk from  $\frac{1}{2}$  per cent. to 1 per cent., thus cutting down the fat in the food  $\frac{1}{8}$  per cent. to  $\frac{1}{3}$  per cent., depending on the dilution. (Boston Medical and Surgical Journal, February 14, 1901.)

## HOOPING COUGH, DRUGS IN.

(By Charles G. Kerley, *Proceedings New York Academy of Medicine, Section on Pediatrics*, February 8, 1900; *Pediatrics*, May 1, 1900.) The 752 cases were separated as they developed into groups of twenty, and were allowed to cough without

treatment until the height of the paroxysmal stage was reached, which usually required from ten to fourteen days. Five-sixths of the patients were under four years of age, and one-half under two years. The duration of the attack had varied between three and twenty weeks, the usual duration having been between six and eight weeks. Resorcin and boric acid with sodium bicarbonate were tried by insufflation in six institution cases, but were discontinued after three days. Alum, fluid extract of horse-chestnut leaves, dilute nitric acid, cocaine, bromoform, bromides, belladonna, and antipyrine had all been tried. The first three had been found valueless; alum appeared to be of some service, but had been badly borne by the stomach; bromoform had proved very unreliable. Cocaine in doses of one-tenth of a grain every four hours for a child of two years had been employed in about twenty-five cases. It had controlled the severity of the paroxysm somewhat, but not sufficiently to warrant its continuance. Quinine in large doses (twelve to twenty grains daily) had produced great benefit, the number and severity of the paroxysms being remarkably controlled and diminished one-half or one-third. Belladonna had been used in sixty cases, pushed to its physiological effect, but no beneficial effects had been observed. Twelve to sixteen grains a day of a mixture of equal parts of the bromides of sodium, ammonium, and potassium, at the age of one year, gave better results than were obtained with the previously mentioned drugs. Antipyrine had been used in sixty cases, and had controlled the paroxysms better than any other drug employed, and caused only a trifling depression if administered with ordinary care. The combination of bromides with antipyrine had been used in sixty cases, with better results than from one or other of these drugs independently. For a child of eight months half a grain of antipyrine and two grains of sodium bromide should be given every two hours for six doses, and then its administration should be discontinued for twelve hours before being resumed. For a child between two and a half and four years of age, two grains of antipyrine and three or four grains of bromide should be given every two hours for twelve hours, and then discontinued for twelve hours before being resumed. The steam spray and fresh air were also useful adjuncts to the drug treatment. (*American Journal of the Medical Sciences*, April, 1901.)

#### HOOPING COUGH, TREATMENT OF.

After considering briefly the etiology of this disease, H. F. Thompson (*Phila. Med. Jour.*, January 12, 1901) discusses the treatment, and reports in detail five cases which he has treated recently with heroin. He finds that heroin administered in



hooping-cough allays the cough and eases respiration, the number of respirations being reduced, but their force and volume of inspired air being increased. The drug was always well tolerated, and rendered the attacks much more infrequent, and less violent, while there was also an improvement in the general condition of the patients. The dose given was from  $1/48$ th to  $1/24$ th grain, according to the age of the child. (From abstract in Medical News, February 2, 1901.)

## INFLUENZA.

(By Dr. A. Jacobi). The prognosis was not unfavourable if the patient was in good health at the time of the attack. Infants might die from enteritis. Altogether the immediate mortality was not very large, but indirectly the disease might prove dangerous, and was very often fatal on account of the respiratory diseases of adynamic type which were common sequelæ. Not infrequently influenza was the starting-point for tuberculosis. The prognosis should never be considered positively safe, for the physiological strength of the child's heart was no protection against the debilitating effect of the toxin of the influenza bacillus. Relapses were frequent, for there was no immunity, but, on the contrary, a seeming predisposition to subsequent attacks. The microbic cause might at one time attack the nervous system, and at the next the respiratory organs. The persistent cough should warn us not to make the prognosis too favourable. In his experience, nephritis had not been an infrequent occurrence after influenza. The diagnosis should not be made from the positive albumin test, which indicated all of the albuminoids. Microscopical examination of the centrifuged urine should always follow the chemical test, and would reveal nephritis in a respectable proportion of cases. Fortunately the nephritis which complicated influenza was not ominous, but it should lead the physician to be cautious in making the prognosis. (Medical Record, December 8, 1900.)

## INFLUENZA, TREATMENT OF.

Dr. W. H. Thomson recommends a prescription containing in each dose one-sixth of a grain of solid extract of aconite, 1 grain of Dover's powder, 4 grains of phenacetine, and 3 grains of quinine, made into two pills; three doses, or six pills, to be taken on the first day of the attack, and continued daily as long as a febrile temperature lasted. As soon as the temperature declines, whether on the second day or subsequently, the dose is reduced by one pill a day, till three, or one-half the first daily dose, are taken, and this is continued until all catarrhal symptoms have subsided. Some patients who are very



susceptible to aconite find the dose in this formula causes numbness and tingling, in which case its proportion may be reduced. (New York Medical Journal, January 26, 1901.)

## IODIDES, USES OF.

(By Prof. Ralph Stockman.) Dr. Stockman remarked that probably no drug was so indiscriminately used as a therapeutic agent as iodide of potassium. As an anti-galactagogue and in the diseases of goitre, syphilis, lead poisoning, and arterial sclerosis, the use of the iodides of potassium and sodium was found to be followed by good results. In other diseases, however, as cirrhosis of the liver and kidneys, fibroid phthisis, chronic neuralgia, pericarditis with effusion, and obesity, the result obtained was often disappointing. Some years ago the treatment of goitre with the iodides was found, in France; to be followed occasionally by dangerous symptoms; and the tremors, rapid heart action, and emaciation were attributed to the poisoning effect of the iodine liberated in the body. Dr. Stockman pointed out the striking similarity of the symptoms to the condition following poisoning by thyroid extract; and he held the belief that the liberated iodine in the body directly stimulated the thyroid gland, causing an increase in the thyroid secretion, the latter of which accounted for the symptoms produced. The nervousness and sleeplessness that sometimes affected people when residing at the seaside was due, he maintained, to the inhalation from the air of minute quantities of iodine, which, by its action on the thyroid gland, increased the secretion, and gave rise to the nervous excitability. The action of the iodine afforded an explanation, he thought, of its value as an alterative in the diseased conditions of atheroma, goitre, syphilis, and myxœdema. (Glasgow Medical Journal, February, 1901.)

## MALARIA, EXAMINATION OF THE BLOOD IN.

(From Dr. Rees' paper.) The patient's finger is cleaned with methylated spirit, and if he is sweating the rest of the hand should be covered over with a handkerchief. An ordinary needle, having been sterilised, is used to prick the palmar surface of the finger tip. The first drop of blood which exudes should be wiped off. The second droplet is then squeezed out; this should be about the size of a pin's head. On to this a cover glass is lowered so that it touches the drop without touching the finger. The charged cover glass is then allowed to fall gently on to a slide, and after a few seconds, when the blood has run out in a thin film, it should be ringed with vaseline. If the preparation be a successful one Newton's

iridescent rings will be seen by holding the preparation to the light. The preparation should be first examined with a one-sixth objective and a suitable field, that is, one in which the corpuscles are in a single layer, arranged edge to edge, but not overlapping, sought for. The one-twelfth oil immersion is now substituted, and the interior of every red corpuscle should be carefully scrutinised; field after field should be examined in this way. Occasionally parasites are extremely scanty, and at least half an hour should be spent over a specimen before a negative diagnosis can be considered as satisfactory. Pigmented leucocytes are also to be looked for, because they afford evidence of recent malarial infection. (Practitioner, March 15, 1901.)

### MALARIA, PROF. KOCH'S RESEARCHES IN.

The first point of note in Dr. Koch's paper lies in the fact that in all his researches in East Africa, New Guinea, and other tropical lands, he was only able to discriminate, for certain, three varieties of malarial plasmodia, the large pigmented quartan and tertian parasites, and a smaller ring-shaped organism, answering to the three or four different species of "æstivo-autumnal" plasmodia of Italian observers. The fever produced by this form he describes as undoubtedly "tertian" in its early stages, though, subsequently, becoming more irregular in the onset of the attacks. He proposes to name it the "parasite of tropical fever." His observations in New Guinea yielded some interesting data with regard to immunity against malaria. He comes, therefore, to the conclusion that an attack of malaria in childhood, which is allowed to run its natural course uninfluenced by treatment, confers a complete immunity against attacks at a later period of life. A further interesting observation proves that the different varieties of malaria are not mutually protective. Thus the writer found one island in the Bismark Archipelago where only quartan fever existed. Adult natives of this island who had suffered from malaria in childhood, but never since, and who were thus immune against the prevalent variety, on being taken to an island on which tertian and "tropical" fever prevailed were speedily infected. Besides the evidences of active infection, the writer found that the more lasting results of malaria gradually diminished with age. Whilst an enlarged spleen and decided cachexia were the rule in children of three to six years old, little remains of either were found at the end of childhood, and in the adult natives of New Guinea he found no trace of lasting effect of the malaria which they had passed through in their early years. (From Dr. C. H. Melland's abstract in the Medical Chronicle, 1900, p. 289.)



**MALARIAL MOSQUITO IN ENGLAND.**

Nuttall, Cobbett, and Strangeways Pigg contribute the first paper in the *Journal of Hygiene*, upon the geographical distribution of anopheles in relation to the former distribution of ague in England, illustrated by two maps. A number of districts have been examined, in all of which anopheles has been met with, and not only where ague was formerly prevalent. The authors conclude, therefore, that the disappearance of ague does not depend upon the extinction of anopheles, but is probably due to several causes, such as (1) a reduction in the number of these insects consequent upon better drainage of land; (2) reduction of the population in infected districts, as the result of emigration about the time when ague disappeared in England. This would naturally reduce the number of infected individuals, and thus lessen the chance of the anopheles becoming infected; (3) it is possible that the use of quinine has reduced the chances of infecting the anopheles through checking the development of parasites in the blood of patients. (*Medical Times and Hospital Gazette*, April 20, 1901.)

**MILK, PATHOGENIC MICROBES IN.**

(From a preliminary report by Dr. Klein.) The tubercle bacillus grows readily on milk at 37 deg. C., and when the tubes are inoculated from a virulent source the cultures are also virulent. Old cultures of this organism on glycerine agar which had entirely lost virulence were found to regain their pathogenicity in milk, and this was maintained in subcultures. In lesions, however, produced by these sub-cultures the bacilli again lost virulence rapidly. On sterile cheese and in sterile cream the tubercle bacillus grew readily at 37 deg. C. but did not regain lost virulence. *B. typhosus* grew readily on milk at 20 deg. C. and at 37 deg. C. Cream proved a suitable medium at the lower of these temperatures but not at the higher; on cheese the bacillus did not grow at all. *B. diphtheriæ* from a recent active agar culture gave a copious typical growth on milk at 20 deg. C., but none at 37 deg. C., or on cheese or in cream at either temperature. The streptococcus scarlatinæ grew in milk at both 20 deg. C. and 37 deg. C.; on cream and cheese there was a limited typical growth at 20 deg. C. after a fortnight's incubation, but no growth on either at 37 deg. C. (*British Medical Journal*, May 25, 1901.)

**MILK, THE PURITY OF.**

The report of the bacteriologist of the Liverpool Corporation (Professor Boyce) is published in the last part of the *Reports of the Thompson-Yates Laboratories* (vol. iii., part 1). Among other details it contains the following, which are of considerable



interest:—The injurious effect of boric acid (frequently used as a milk preservative) was shown by feeding kittens with milk containing 5 and 10 grains to the pint. In each case diarrhœa, emaciation, and death were caused in a few weeks. Similar though less violent results were produced with formalin (1 in 12,500 of milk). A large number of infants' feeding-bottles were examined bacteriologically during prevalence of summer diarrhœa. Bottles and tubes were found to contain innumerable putrefying organisms, including the virulent *B. enteritidis sporogenes*. The same bacillus was found in three out of five persons who died of acute food-poisoning after eating fish and pork from a certain stall of insanitary condition in the market. Three hundred and fifty-two samples of milk were examined for the *B. tuberculosis*. The bacillus was found in 15 out of 159 samples (11.3 per cent.) from the country, and one in 162 samples of town milk (0.7 per cent.) ; five samples of so-called "sterilised milk" were examined, and not found to be sterile. (Abstract in Treatment, February, 1901.)

### MORPHINE, TOLERANCE TO.

According to Dr. E. S. Faust (*Monograph*, 1900, Leipzig) the tolerance of the organism to increasing doses of morphine might appear to be possible of explanation in two ways:—(1) It may be due to a dulling of the nervous system against the action of the drug, so that given doses eventually may not have as marked an effect as at first. Such an effect would be expected to occur only after large doses. (2) The organism gradually comes to possess the power of rendering the morphine ineffectual by transforming or destroying it. By experimentation on dogs with increasing doses of the drug he comes to the conclusion that the latter explanation is apparently the correct one. He finds that under normal conditions a portion of the morphine injected subcutaneously or intravenously is transformed in the body tissues. After a single dose of morphine, sufficient to produce definite poisonous symptoms in dogs, he was able to obtain only about 70 per cent. of the amount injected. By gradually increasing the size of the injected dose a stage is reached when not a particle of morphine is recoverable in the fæces or urine. Further, an analysis of the various organs fails to show the presence of any morphine. During the experiments the reduction in the percentage of recoverable morphine in the fæces was gradual, until eventually none was found. Faust concludes from his investigations that the tolerance of the organism to morphine is due not to a tolerance or a dulling of the tissues to the effect of the drug, but rather to the increasing power which the tissues come to possess to transform and destroy the alkaloid, and thus render it inactive. (American Journal of the Medical Sciences, December, 1900.)

**MOSQUITO, SUCCESSFUL INOCULATION AGAINST.**

Surgeon-General Sternberg recently received a cable from Major Walter Read, of the Medical Department at Havana, saying that the experiments with mosquito inoculation has been entirely successful in 80 per cent. of the cases under treatment. These experiments are being conducted by Dr. Read and other surgeons of the army near Havana. So far the inoculation has been confined to Spanish immigrants intending to settle in Cuba and desirous of making themselves immune to yellow fever. These persons have voluntarily presented themselves for inoculation with a full understanding of the nature of the experiment. (New York Medical Journal, January 12, 1901.)

**MYXŒDEMA.**

Sir Dyce Duckworth showed before the Clinical Society a patient who begun to manifest symptoms of myxœdema in 1878, and came under his care as an out-patient at St. Bartholomew's Hospital in 1879. He lost sight of her for some time, but she subsequently came into Elizabeth Ward under his care in 1893, weighing 14 st. 4 lbs., and remained for three months under observation. Her weight was reduced to 10 st. 5½ lbs. Her case was one of the earliest brought before the notice of this society, and at that time the intimate nature of the malady was not ascertained. The influence of thyroid treatment was most marked in this instance. The patient was growing steadily worse, and becoming languid, helpless, and hebetate, and becoming a burden to herself and her family. Within a few months she regained her juvenile figure, and became bright and useful once more. Her third, rickety child died, but she again became pregnant, and has borne three more children. Her present complaint is chiefly of occipital and vertical headache, and there is no obvious relapse of the myxœdematous state. There are no morbid indications in the thorax or abdomen. Some additional moles have appeared on various parts of the body. The blood-corpuscle count is good = red 4,600,000, white 7600. Hbg., 88 per cent. Colour index, 98. Temperature 97 deg. The urine is void of albumen and sugar, depositing lithates, and containing urea 4.4 per cent., and later 3.2 per cent., 1.030 acid. The knee-jerks are present but sluggish. Fine movements of fingers are good. The electrical, muscular, and nervous reactions are normal. Cerebration not slow. She has taken thyroid elixir (f. ʒj = one thyroid gland [sheep's]) in f. ʒss doses per diem for long periods, then less and less to the amount of f. ʒij in a week for years. Her present weight is 10 st. 13 lbs. No supra-clavicular fatty masses to be felt. (Medical Press and Circular, May 1, 1901.)



**MYXŒDEMA FOLLOWING GRAVES' DISEASE.**

(Under the care of Dr. Leonard Guthrie.) This woman, whose age is 58, first came under my observation two days previously. She then had a large goitre, noticed four months before ; her pulse was 120-130, and she complained of palpitation, tremors, flushings, profuse perspirations, dyspepsia, and general debility. The catamenia had ceased for two years. Under treatment by thyroid extract (grs. v. every night), the thyroid gland diminished in size until in October, 1899, it was barely perceptible, and she professed great relief from the other symptoms. She continued to take the tabloids until June, 1900, when she was confined to the house by an abscess in her foot, and the treatment was discontinued. On again attending hospital, six months later, she presented all the symptoms and signs of advanced myxœdema. She had grown very bulky, and was so weak that she could hardly walk. Her skin was coarse and quite dry, complexion yellow, cheeks flushed, eyelids bluish and baggy, hair and eyebrows falling off, speech indistinct and slow. The thyroid gland could not be felt, and she had two symmetrical large soft swellings above each clavicle. After a fortnight's treatment by thyroid extract, the symptoms and signs of myxœdema had almost subsided, but the pulse was rapid, as it had been at first. Dr. Guthrie observed that only a few cases of myxœdema following Graves' disease had been reported, but he believed this sequence was by no means uncommon. (Medical Press and Circular, January 16, 1901.)

**PLAGUE, CARDIAC FAILURE IN.**

It is common in all stages of the disease, but seems to especially threaten at the commencement of the third stage, or when the bubo has suppurated, and after the high fever. Perhaps the plague toxins have exerted an injurious influence on the heart-muscle. A frequent cause of syncope is sitting up in bed, or even walking about. This the patient is often urged to do by his relatives or attendants, so that they may have an opportunity of estimating his progress towards recovery. The attack may come on quite suddenly, or sometimes a few hours' warning is given ; the premonitory symptoms then are restlessness, pain in the cardiac region, sighing, prolonged respiration, and a flickering or intermittent pulse. The treatment adopted here is to keep the patient in the recumbent position, to apply counter-irritation over the cardiac region, to administer stimulants—brandy, &c.—and to inject ether or strychnine hypodermically. A large number of patients die from syncope who are otherwise doing well. It is to guard against this calamity that it is of so great importance to have the patient conveyed early and



comfortably to hospital. Chloroform is, contrary to what might be expected, well borne by plague patients. I have frequently noticed the pulse improve in volume and strength during its administration. (From Dr. R. W. H. Jackson's paper, Dublin Journal of Medical Science, February, 1901.)

## PLAGUE, DIAGNOSIS OF.

In discussing the bacteriological diagnosis, Dr. E. F. Trevelyan (Leeds) thought that if the lung contained large numbers of a micro-organism with the morphological and staining peculiarities of the plague bacillus, a positive diagnosis of plague should certainly be given without awaiting confirmation by cultivation and experiment. This had been done in the first two of the Hull cases. As regards the sputum, a careful and often-repeated examination had been made of the sputa in four of the cases, the results being controlled by inoculation experiments. None of the sputa received from these cases presented in cover-glass preparation a pure culture of the plague bacillus. In fact, there were so many micro-organisms present that the examination was often rendered very difficult. Cultivation of the sputum in broth at 22 degs. C. in two instances had proved of no real service. The sputum received was nearly always viscid, and more or less rusty in appearance. Blood had been examined from three cases, and the plague bacillus was readily found by cover-glass preparation in two cases, and by cultivation in all the cases. The examination of the blood, although of distinct service in one case, was usually rendered of less value from the diagnostic point of view from the fact that the bacilli were not likely to be found until late in the disease. In the confirmatory inoculation experiments more satisfactory results had been obtained with guinea-pigs than with white rats. In conclusion Dr. Trevelyan thought that the danger of investigating plague material could be overstated, although, of course, careful precautions must be taken, especially in keeping the inoculated animals, in not directly handling them or their tissues, in immediately sterilising all instruments, &c., used, and cremating the carcasses. (From Report of the Leeds and West Riding Medico-Chirurgical Society, British Medical Journal, February 23, 1901.)

## PLAGUE, LUSTIG'S SERUM IN.

(From Dr. Choksy's paper.) Some further observations have been made, which tend to show that two or three large doses of the serum, injected early, and within short intervals, are productive of greater good. Instructions:—(a) The Serum. (1) Each phial contains 20 c.c. (2) No antiseptic

is added to the serum. (3) The presence of coagulum, flakes or blood, is no contraindication to its use. (b) The Syringe. (1) The syringe and needles should be boiled before injection and washed out with 3 per cent. carbolic lotion after use. They should be kept scrupulously clean. (c) Method of Injection. (1) Injections should be made subcutaneously and on the outer side of thigh or arm, as far as practicable. (2) It is preferable not to give a second injection on the same limb till at least 48 hours after the first. (3) Cleanse the skin thoroughly with soap and water, and carbolic, sublimate, or lysol lotion before injecting. (4) After withdrawing the needle, seal up the puncture with collodium and cotton wool. (Indian Lancet, April 8, 1901.)

### QUININE IN MALARIAL FEVERS.

(From Dr. Nithan Lal's paper.) Quinine should be prescribed at once in doses of ten grains every two hours, to commence six hours before the attack of fever and to be continued till the patient has taken from thirty to forty grains and begins to feel *quininism*. If the physician sees that it is necessary to give a large dose and that the interval between the attacks is not six hours, thirty grains might be given one hour before the attack. When the patient complains of *quininism* oranges and lime juice should be given, otherwise the quinine should be given in the form of the following mixture :—Quinine, gr. x.; Diluted hydro-bromic acid, m. xv.; aqua, ad.  $\bar{z}$ i. If the fever is not prevented on the first day the same dose must be repeated the next day, and within a few days of treatment it will be found that the quinine has a valuable prophylactic action against the fever. The chief thing to be borne in mind is that the treatment must not be discontinued, but must be kept on in large doses for at least three days and then taken in doses of five grains every morning and evening for a week, and the next two weeks decreased to two grains morning and evening. (Indian Lancet, February 11, 1901.)

### RHEUMATISM, SALICYLATES IN ACUTE.

Any of the salicyl compounds, salicin, solol, or salicylate of soda, can be used. The strongest seems the sodium salt, then salol, and lastly salicin. Twenty grains of the sodium salt may be given, as a powder dissolved in water, every two hours. As a rule, this relieves the pain, and reduces the temperature within thirty-six to forty-eight hours. The dose may then be reduced to twenty grains every four hours, and after another two or three days a further reduction to twenty grains four times a day may be effected. At the end of the week ten grains thrice a day are



as a rule, sufficient. It is a good plan to change to the salicylate of quinine, which may be given in five-grain doses, and acts as a tonic. Should the sodium salt be badly borne, and cause nausea, deafness or cardiac depression, the salicin preparation may be substituted for it. (From Dr. Frank J. Charteris's paper in the Medical Brief, April, 1901.)

## RHEUMATISM, TREATMENT OF JOINTS IN.

If pain remain in any joint after the expiration of 24--36 hours from the commencement of the treatment, then some small blisters applied above and on either side of the joint will, as a rule, rapidly remove the pain and swelling. No discomfort need arise from the blisters if, after slitting open the blister, a dressing of zinc or boracic acid ointment is applied on lint and then firmly strapped down. The discomfort after blistering is generally due to the looseness with which the dressing is applied. Another useful method for the relief of the pain in the joints is to paint tincture of iodine over and around each affected joint, which should then be completely enveloped in a hot linseed poultice, and surrounded with plenty of cotton-wool and a flannel bandage; the entire dressing is then to be left untouched for twenty-four hours. A more recent method, and one which in my experience is of great utility, of considerably relieving the pain and inflammation of the joints is by the application of salicylate of methyl. A piece of lint saturated with about a teaspoonful of salicylate of methyl is placed over the affected joint. A piece of gutta-percha tissue, somewhat larger than the lint, is put over the lint, and the overlapping edges of the under portion of the tissue are then sealed down firmly to the skin by wetting with a little chloroform, after which some wool and a bandage are applied. At the end of twelve hours the dressing is removed, when the salicylate of methyl will be found to have undergone complete absorption. That absorption takes place rapidly is shown by the detection of salicylate in the urine within half an hour of the application, and when no salicylate is being taken by the mouth. The only drawback to this method of treatment is the peculiar penetrating odour of the salicylate of methyl. The pain in the joints may also be relieved by the application of chloroform liniment. (From Dr. Luff's paper in the Practitioner, January, 1901.)

## RINDERPEST, INOCULATIONS AGAINST.

The Government of India have received an important report from Dr. Lingard, Imperial Bacteriologist at the Mukhtesar Laboratory, which shows that the system of inoculating cattle against



rinderpest in India has at length been put on a thoroughly practical footing and is giving most satisfactory results. Experiments have been conducted upon a large scale by the Veterinary Department, with serum manufactured at Mukhtesar, and uniform success has been obtained in out-breaks of the disease in such widely separated localities as Bareilly, Aligarh, Bulandshahr, Dehra, and Madras, heavy loss being in many cases averted amongst valuable cattle. The operation is easily performed, is practically harmless to the cattle, and the treatment can be safely adopted, even in cases of animals that are giving milk. (From the Indian Lancet, February 25, 1901.)

### SCARLET FEVER, RASH IN.

[The following is taken from Dr. J. F. Schamberg's paper :—] Observations suggest the following inferences : (1) The colour of the rash in scarlatina varies in different individuals, and at different times in the same. Accurately speaking, it is never scarlet and only occasionally bright red. More commonly it is a dull red with an appreciable element of brown. (2) There are other elements of the eruption of scarlet fever besides the erythema, namely, puncta, vesicles, and goose-flesh papules, and these lesions occur with a considerable degree of constancy. (3) Vesicles are far more common in the rash of scarlet fever than is ordinarily believed. They are more profuse in intense eruptions, although they may be present in mild ones. The amount of desquamation is as a rule proportionate to the degree of vesiculation. Vesiculation may be so copious as to deceive the physician in his diagnosis. (4) Desquamation on the body begins as pin-point, powdery scales at the summits of the desiccated vesicles. Irregular or jagged rings of desquamation then form, which enlarge until the horny layer is completely shed. (5) Histologically, the rash of scarlet fever is a dermatitis exhibiting deep and extensive changes in the corium. The greatest degree of inflammation is exhibited about the hair-follicles, which are frequently disintegrated by a serous and cellular exudate. Vesicles have their seat either in the epidermis or in the walls of the hair-follicles. The persistence of desquamation and of the infectivity of the scales is to be accounted for by the depth of the pathological process in the skin. (Journal American Medical Association, November 10, 1900.)

### SCARLET FEVER, RETURN CASES OF.

(From Dr. Arthur Newsholme's paper.) An attempt has been made to show that a "hospitalised" strain of scarlet fever, manifesting protracted infectivity and heightened fatality, is

produced in fever hospitals. Hospital isolation has been denominated aggregation rather than isolation ; and the number of "return cases" stated, I think, erroneously, to be much larger than is usually supposed. Here is an excellent field for further exact inquiry, clinical, pathological, and statistical. In my experience, occasional protracted infectivity is not confined to hospital practice ; but it is more difficult to obtain evidence of it in private than in hospital practice. The higher fatality of "return cases" (*e.g.*, 6.7 per cent. in Nottingham in 1892-4, as compared with 2.8 among the first cases in the same house ; and 4.8 per cent. among secondary patients falling ill within twenty-one days of the removal of the first patient—Boobyer) has also been adduced as a special hospital phenomenon. It may rather, I think, be regarded as part of the natural history of scarlet fever. Second cases in a household are usually more severe than the first, and third than the second. (Further exact statistics on this point are desirable, and could easily be collected.) This increase in severity frequently occurs, whether home or hospital treatment is adopted. It occurs even more markedly in diphtheria. The prospects of survival and reproduction of the contagium of scarlet fever depend largely upon its continued or even enhanced infectivity or virulence, and occasional failure to destroy the contagium cannot be wondered at. Such protracted infectivity is, however, exceptional, and by the adoption of measures now better understood, can be largely avoided. (*Medical Times and Hospital Gazette*, May 4, 1901.)

## SCURVY IN YOUNG CHILDREN.

(From Dr. H. A. Hare's paper.) Perhaps the most frequent error in diagnosis under these circumstances is that the child is suffering from muscular or articular rheumatism, this decision being reached by reason of the fact that the child seems to suffer great pain upon movement, and sometimes has a small degree of fever. The pain on motion is so excessive in many cases as to seem almost agonising ; and it is by no means uncommon for parents to permit children to become excessively unclean because the movements necessary in bathing cause such manifestations of pain that it seems a greater kindness to permit the child to become filthy than to move it about. Like all diseases, however, instances are met with in which many of the characteristic symptoms are entirely absent, and it is not uncommon for these painful manifestations to be the only evidence of the malady. In still others, we find a peculiar spongy state of the gums, which tend to bleed when lightly touched and which are frequently so swollen that the teeth which have recently broken through the gum are speedily covered in by the



overgrowth of the mucous membrane, the edges of which, about the teeth, frequently look as if they were composed of tiny blebs of blood of a dark colour. The other symptom of scurvy, which is by no means as constant and yet which is equally characteristic, when it occurs, is the development of petechiæ in different portions of the body, very frequently about the ankles and feet. In still other cases, subperiosteal hæmatoma develops with surprising rapidity, and, as pain on movement and the development of great swelling are frequently first noticed after a fall or a blow, it not rarely occurs that the physician is led into the belief that traumatism is the cause of the illness, without recognising the fact that it has played but a small part in causing the sudden development of a state which really indicates grave systemic conditions. It is true that these subperiosteal hæmatomata have been chiefly reported by French clinicians, and have been rarely seen in America, whereas, on the other hand, considerable extravasations of bloody serum have been met with in the loose tissues after exposure to injuries which in the healthy infant would produce no symptoms whatever. (Medical News, February 16, 1901.)

#### SMALLPOX IN THE FŒTUS.

C. W. Rummel (*Phila. Med. Journ.*, Nov. 10, 1900) reports the case of a young married woman, pregnant for the first time, who on June 30 was taken with chills, headache, lumbar pains, and fever. No physician was called, but her father had just recovered from smallpox. Her condition improved when the eruption appeared, and she was soon up and about. On July 21 she began to have pains, which gradually increased in severity, and the child was born on July 25. The fœtus, which was of five months' development, was covered with an eruption, most marked on the face and chest. There were confluent lesions on the face, and many of the vesicles showed traces of umbilication. The day before the woman's pains began, the health officer had fumigated the house with formaldehyde, to which fact the friends attributed the miscarriage. (Edinburgh Medical Journal, April, 1901.)

#### SOLANINE, POISONING BY.

In common with various species of solanum, the potato plant contains a white crystalline compound known as solanine. This is a poisonous narcotic, and is composed of sugar and a substance called solanidin. Solanine as a therapeutical remedy has been recommended in doses of a sixth of a grain to one grain as an analgesic in neuralgia, and it has also been prescribed for the alleviation of acute attacks of bronchitis and paroxysmal asthma. The leaves, the stalks and the unripe



berries of *solanum tuberosum*, otherwise the potato plant, are said to be narcotic, and the potato itself certainly contains the poison. The potatoes supplied to the soldiers in garrison at Pfuhl, instead of containing about .06 per cent. of solanin, were found to contain about .38 per cent. raw and .24 per cent. cooked. Sixty-six of the soldiers exhibited marked symptoms of poisoning, accompanied by shivering, fever, vomiting, and syncope, with in one case convulsions. In a few of the patients there was noticed a yellow discoloration of the skin, and in most the conjunctivæ had a distinctly yellow tinge. The treatment prescribed by the medical officer was rest in bed, calomel, and tincture of opium, with the satisfactory result that on the third day of the illness the large proportion of the patients had sufficiently recovered to do light duty. (Leaderette in Medical Press and Circular, June 5, 1901.)

### SUPRARENAL EXTRACT.

[The following are Dr. W. H. Bates's conclusions:] (1) The suprarenal extract is the most powerful known hæmostatic, and has, when properly used, no objectionable properties. (2) When it is used locally, hemorrhage from mucous membranes can always be controlled. (3) The internal use of the extract as a hæmostatic is efficient in some cases. (4) The suprarenal extract, when it controls hemorrhage locally or by the internal administration, does so in less than one minute. (Medical Record, February 9, 1901.)

### SUPRARENAL EXTRACT IN ADDISON'S DISEASE.

Dr. Anderodias reports six instances. The first symptom to be changed was the arterial tension, and with improvement in this came a disappearance of the gastro-intestinal symptoms and a gain in strength. The symptom most tenacious was the bronzing; in one instance only did it disappear, in two it was lessened, and in the remaining ones it was unchanged. Of these patients three were completely cured, two notably relieved, while one remained the same. The duration of treatment varied from three to five months. The remedy should be given by the mouth, and not hypodermatically, in small doses—one to two grains—and continued until cure takes place.—*Journal de Médecine de Bordeaux*, 1900, No. 29, p. 513. [We would emphasise the caution against the subcutaneous use of this substance. Personal observations of serious collapse only confirm what the remarkable vasoconstrictor effects of the drugs would lead us to expect. In fact, its action upon the blood-vessels clearly antedates its effect on the heart.—R. W. W.] (From Dr. R. W. Willcox's summary in the American Journal of the Medical Sciences, December, 1900.)

### SUPRARENAL MEDULLA.

This agent may prove of the greatest clinical value in cases of sudden cardiac failure, whether as the result of shock or hemorrhage, or of an overdose of anæsthetics. In these cases the sterilised decoction, which may be of the strength of 5 grs. to a fluid ounce and must be filtered, should be injected with a hypodermic syringe very slowly into a superficial vein, or even, in extreme or apparently hopeless cases, into the heart itself through the thoracic wall. I have seen such remarkable results from the application of this method to animals in which the circulation had apparently entirely ceased, and in which the heart has been completely resuscitated by the action of the drug, that I have no hesitation in recommending that it should be tried in this class of cases in the human subject. (From Professor Schafer's paper, *British Medical Journal*, April 27, 1901.)

### THYROID GLAND, THE CHEMISTRY OF THE.

Summarising one's position, it may be said that in all probability removal of the thyroid alone invariably causes myxœdema, while removal of the four parathyroids produces the acute tetanic symptoms observed after so-called experimental "thyroidectomy." The partial tetany sometimes observed after apparent removal of the thyroid in man is most likely really due to the inadvertent removal of some of the parathyroids along with the thyroid proper. The symptoms of myxœdema can be fully explained by the absence of iodothyron from the blood which such removal entails, and the symptoms of parathyroidectomy are not yet susceptible of any satisfactory explanation. The chemical evidence is, on the whole, opposed to the "over action of the thyroid" theory of exophthalmic goitre, but whether the parathyroids play any part in the production of that disease chemistry is not yet in a position to decide. (From Dr. George Murray's paper in the *Practitioner*, April, 1901.)

### TUBERCULOSIS AND DUST.

Swithenbank says that the danger of infection is ever present and real until consumptives realise that they are a standing danger to the community by their promiscuous spitting in the streets and other public places. Marked decrease in the habit of spitting will be effected when the danger is instilled into the public mind. Common sense and education of the young will do the rest. Cornet, of Berlin, confined at different levels forty-eight guinea-pigs in a room, the carpet of which had been smeared with the phlegm of a patient suffering from advanced



tuberculosis of the lungs. The phlegm was allowed to dry and the carpet then vigorously brushed. Of the forty-eight guinea-pigs introduced forty-six became infected with tuberculosis. In France notices against spitting are being affixed in public places, railway stations, streets, and in places of entertainment. Wet swabbing and the use of wet cloths is to supersede the brush on platforms and in carriages. Spittoons in prominent places are already provided at some of the stations. Cushions, carpets, and hangings are to be properly beaten in enclosed spaces. Blankets and rugs used by passengers are to be disinfected after each journey. (From abstract in *The Hospital*, May 4, 1901.)

### TUBERCULOSIS, PROPHYLAXIS OF.

(From Dr. H. D. Espine's paper, *Rev. Mens. d. Mal d l'Enfance*, August and September, 1900.) (a) To prevent infection. (1) Nothing but boiled milk, or milk from cows tested by the tuberculin test should be given to infants. (2) Wet-nurses and other attendants should be free from tuberculosis. (3) If the mother is tuberculous it is necessary to bring the child up with a wet-nurse, and to avoid, as far as possible, all dangerous contact with the mother. (4) In a tuberculous family the general rules laid down by the Academy of Medicine must be observed, and especially the use of special receptacles for the sputum, the prohibition of sweeping the rooms and the substitution of washing all surfaces with some antiseptic solution. (5) No person who is affected with tuberculosis is to be allowed to become a teacher, and tuberculous children must be removed from the public schools. (b) To diminish the susceptibility of the infant to tuberculosis: (1) Establish rural asylums for the poor children of the large cities who have weak constitutions or are convalescent from acute disease. (2) To promote the vacation colony idea. (3) To send children who show the first manifestations of tuberculosis into sanatoria at the seashore or in the mountains. (Abstract from *Pediatrics*, January 1, 1901.)

### TYPHOID FEVER.

Dr. Gillies thus speaks of the rash and the splenic enlargement in his 151 cases. The characteristic "rose spots" were present in 69 per cent. of the cases. In one case the limbs and trunk were covered with a polymorphous rash, composed of macules, papules, and petechiæ. In two cases a diffuse erythema was present; and in four cases a purpuric rash appeared. The earliest appearance of the rash was on the third day of the disease. The latest appearance of the rash was on the 69th day, being present only during a relapse. The shortest duration



of the rash was two days. The longest duration was 28 days ; the average duration was twelve days. The spleen was palpable in 61.2 per cent. of the cases. The fourth day was the earliest in which the spleen was palpable. In one case it was not palpable until the 31st day of the disease. On the average the spleen remained palpable for fourteen days. In two cases the spleen was palpable only for four days. In one case it was palpable for 29 days. (Montreal Medical Journal, February, 1901.)

### TYPHOID FEVER, FEEDING IN.

We believe that soft boiled eggs can be taken advantageously, provided that they are so softly boiled as to simply have the raw taste removed from them, and that they are not masses of albumen which may be difficult to digest. We have always held that the administration of various broths made of meats to typhoid fever patients is disadvantageous, as in a large number of cases it increases fœtor of the stools, diarrhœa, tympanites, and the manifestations of toxæmia. On the other hand, it has been our experience that many patients are able to take rice which has been carefully strained, or mashed into a pulp after thorough boiling, corn-starch, eggs, and similar articles of diet, easy of digestion, not only with impunity but with very distinct advantage, particularly if the digestion of these starches is aided by the administration of taka-diastase in its liquid or powdered form. There can be no doubt that the use of taka-diastase under these circumstances is of very great value, as it is important that digestion of the starches should be carried on rapidly before fermentation changes can take place, and it is equally important that the results of this form of digestion should speedily gain access to the organs of assimilation. (From a leading article in the Therapeutic Gazette, February 15, 1901.)

### TYPHOID FEVER, FEEDING IN.

The typhoid diets adopted by Dr. George W. Moorehouse (*Boston Med. and Surg. Journ.*, November 15, 1900) are :—(1) Milk diet, eight ounces every two hours, subject to special directions as to night feedings ; (2) liquid typhoid diet, consisting of milk, milk with tea or coffee, albumin-water, beef-tea, malted milk, chicken broth and barley-water, beef-juice and barley-water ; broths, milk whey, junket, strained soups or gruels may also be given ; (3) soft typhoid diet, to be added to the milk or liquid diet, (a) ice cream, well cooked (boiled) rice, broths thickened with it ; (b) soft boiled or poached egg on soft toast, blanc-mange and milk puddings, calf's foot and other gelatine jellies ; (c) gruels, crackers or bread softened in milk or

broths, macaroni, finely-minced or scraped meats ; the increase in diet to be very gradual, one addition only each day ; (4) typhoid convalescent diet, to be added to anything above, the soft parts of oysters, a sweetbread, chop, cutlet, squab, game (small), chicken, fish, steak, rare roast beef ; a mealy baked potato may also be given with any of the meats ; (5) full typhoid diet, 6 a.m., milk ; 8 a.m., a cereal with cream and a little sugar, milk with tea or coffee, egg on toast, bread or toast with butter ; 10 a.m., bread and butter, with gruel or milk, or broth with egg ; 11.30 a.m., soup, meat, or fish (anything mentioned above), ice cream, blanc-mange, or milk pudding ; 2 to 3 p.m., like 10 a.m. ; 4 to 4.30 p.m., creamed chicken, or a bit of cold chicken or roast beef, bread, and milk flavoured with tea or coffee ; 6 p.m., cocoa, gruel, or broth ; at night, milk two to four times. The appetite, and not the temperature, was the guide to the continuance and increase of the diet once begun. Any change from a less to a more generous diet should always be gradual. (Medical News, December 1, 1900.)

## TYPHOID FEVER, GASTRO-INTESTINAL SYMPTOMS IN.

(From Dr. Ander's paper.) The Brand method of treatment has a favourable influence on the gastro-intestinal tract, by reason of its action in reducing temperature, in lessening nervous manifestations, and imparting tone and vigour to the heart and the muscular system. For the constipation sometimes present throughout the entire course of the disease, I have found an enema of soapsuds, given every second day, to be followed by the speediest and best results ; in late protracted cases accompanied with an irregular intermittent fever, I have seen good results follow the administration of divided doses of saline laxatives. I wish to protest against the routine use of the so-called Woodbridge treatment. I have never seen the gratifying results claimed by its author and his disciples. Of the group of intestinal antiseptics, salol, benzo-naphthol, thymol, carbolic acid, &c., I commonly employ salol, the dose being 3 grains every three hours, or larger quantities, even if the symptoms are above the average severity. Meteorism is diminished, and the stools become less offensive, as I have often had occasion to observe. For the marked distension of the bowel, especially noted when the colon is the seat of the principal lesions and diarrhœa is a prominent feature, turpentine is probably our best remedy ; it is an efficient antiseptic and a stimulant to the circulation and glandular system. When the healing process in Peyer's patches is slow and sluggish, turpentine, by virtue of its stimulating action, hastens the repair



of the typhoid ulcers. For the meteorism white turpentine or the oil may be administered internally ; if the stomach becomes intolerant, then enemas of the oil combined with milk asafetida are very efficacious. As turpentine is eliminated from the system through the lungs and kidneys, and on account of the overworked condition of the last-named organ, the drug should be used with great caution or discontinued on evidence of albumin in the urine. The colon or lower bowel is sometimes the seat of extensive ulceration ; this is productive of marked tympanites, and at times an exhausting diarrhœa supervenes, or involuntary discharges may occur. In these instances, intestinal irrigation if judiciously employed is useful. I sometimes combine with the water an antiseptic, as salicylic acid 5 to 1 per cent., or bichloride of mercury 1 to 6,000, used thrice daily, or every four hours, according to the urgency of the symptoms. If a decided catarrhal condition exists silver nitrate 25 to 1 per cent. may be advantageously employed. The introduction of cold water into the rectum may also be practised with happy results in suitable cases. (Journal of the American Medical Association, January 26, 1901.)

#### TYPHOID FEVER, STOOLS IN.

(From Dr. F. J. Smith's paper). One stool at least must be carefully examined in every twenty-four hours during the active course of the disease. In the stools may be found (1) *The presence of undigested milk or other food.* This I take to be at once conclusive proof that more milk or other food is being given than can be digested, and is an absolute indication that the quantity must be considerably diminished. My own plan is to stop all food absolutely for twenty-four hours, and then begin with very small quantities indeed, and if it be milk curds that are found, I prohibit that article altogether in its natural raw state. (2) *Blood.* If this be visible to the naked eye, and yet is present only in small quantity, it is an indication that the intestinal lesions are of considerable severity, and it serves more to cross the *t* and dot the *i* of caution than to give any special line to treatment ; but if it be present in large quantity it gives the strongest indication for the free exhibition of opium, say 10 minims every two hours for eight or ten doses, or until the patient is drowsy, and for the stopping of all food absolutely for twenty-four or forty-eight hours, so as to give as complete rest as possible both to the mind and to the intestine. (3) *Sloughs.* These by themselves, and without blood in quantity, merely indicate a natural state of affairs in a case of considerable severity about the third or fourth week. They make us anxious lest hemorrhage should supervene and suggest starvation or caution in feeding for a day or two, and their total bulk is a



matter of some importance as indicating the extent of the ulceration. (4) *Feculent débris*. This is the desirable constituent of the stools, and the more they consist of this and the less we are able to discern of the other named elements the stronger the indication to persist in the line of treatment which we have adopted. (Lancet, February 2, 1901.)

### TYPHOID FEVER, UNUSUAL SYMPTOMS IN.

Umberto Baccarani, in *La Riforma Medica*, February 23 and 25, 1901, gives details of symptoms seen in several cases, which, briefly stated, were:—Delirium and insomnia in the prodromal stage; enterorrhagia at as early a period as the fifth day of the disease; the palmo-plantar symptom, or yellow colouration of the palms of the hands and soles of the feet; the pulsus paradoxicus disappearing during inspiration and reappearing with expiration; splenic cough, produced by palpation of the spleen; salivation; urethritis; desquamation, and finally, pruritus. The author calls attention to a point in the treatment, namely, the administration of small enemata of boiled water during the early days of constipation, to remove faecal accumulations, which probably cause a slight rise of temperature. (Medical Times and Hospital Gazette, June 1, 1901.)

### TYPHOID FEVER, WIDAL'S TEST IN.

Most clinicians, to say nothing of the bacteriologists and laboratory workers, look upon the Widal blood test for typhoid fever as thoroughly trustworthy. But can it be relied upon in the diagnosis or exclusion of typhoid fever? It is recognised that in a certain small percentage of cases of typhoid fever the Widal reaction is absent throughout the entire course of the disease. It is much more difficult to prove the opposite, that a case is not one of typhoid fever, even though the Widal reaction is present. Such cases are usually ephemeral and nearly always end in recovery; so that if the blood shows the looked-for reaction, they are confidently diagnosticated as "mild" or "abortive" typhoid, without fear of contradiction. The Widal reaction is due to an increase in the bactericidal power of the blood serum against the typhoid bacillus. But the possibility that in some cases of simple ephemeral fever the normal bactericidal power of the blood may be increased should always be borne in mind. It is held by most authorities that if blood diluted twenty-fold has the power of killing the typhoid bacillus, it must come from a person who has or has had typhoid fever. The routine practice of the Widal test, by the dried-blood method, is based upon this belief. Yet Wright (*Lancet*,

December 1), by an exceedingly exact and accurate method for determining quantitatively the bactericidal power of the blood, found that, in fifty healthy individuals, the blood of twenty-five (fifty per cent.) killed the typhoid bacillus, when diluted twenty-fold. In fifteen per cent. the bactericidal effect was complete even with a forty-fold dilution. The possibility must, therefore, be admitted that in some of the cases of so-called "mild typhoid" the Widal reaction may be due simply to the patient's blood having high bactericidal power in health, *i.e.*, that such cases are not typhoid fever at all. (From a leading article in the New York Medical Journal, December 22, 1900.)

### TYPHOID, PERFORATION IN.

[Dr. Osler draws attention to the symptoms with a view to early operation.] The classical picture of perforation in typhoid fever is in reality not of perforation but of the consecutive peritonitis, and the vital question is whether we cannot recognise the perforation and hand the patient over to the surgeon within twelve hours of the onset before the peritonitis has become widespread. Unfortunately the symptoms are often obscure, and I know of no more anxious and critical task than that which confronts us in some of these cases.

(1) *The pain.*—(a) Its onset, whether simply an aggravation of the slight abdominal pain such as is common with constipation or with diarrhœa, or whether it is a sudden, intense pain, which causes the patient to call out, and which, though relieved by stupes and ordinary measures, recurs in paroxysms and grows worse. (b) Its locality, whether in the hypogastric or in the right iliac regions, or in the region of the gall-bladder; whether it is diffuse or localised; whether it radiates towards the pubes or to the penis. It is to be borne in mind that abdominal pain of a severe character in typhoid fever may be associated with an acute pleurisy, with a distended bladder, with a packed rectum, or it may follow an enema, or it may occur with acute cholecystitis.

(2) *The state of the abdomen.*—(a) Whether flat, scaphoid, or distended, and whether, if distended, it is uniform, or chiefly in the hypogastric region. (b) The respiratory movements, whether seen uniformly, and whether below and above the navel. It is to be borne in mind that perforation may be present with a flat or even with a scaphoid abdomen. (c) Palpation. Observe the degree of tension of the abdominal wall, the presence of pain on pressure, the locality of the pain, the extent, the degree of pressure necessary to elicit the pain, and whether it is a pain of increasing severity; the presence or absence of muscle rigidity or spasm, noting particularly its presence or absence in the hypogastric region and in the right iliac fossa. (d) Percussion.



The character of the note in the front of the abdomen and in the flanks. Auscultatory percussion may be helpful when gas is free in the peritoneum. A flat note in the flanks may be present, due to exudate, within twenty hours of the occurrence of the perforation. (*e*) The liver flatness. Note specifically every third hour after the onset of the symptoms the extent in the middle, nipple, and mid-axillary lines. Remember that obliteration may occur in a flat as well as in a distended abdomen. Complete obliteration in the nipple line may be caused by excessive tympany, but rapid obliteration in a flat, or a not much distended, abdomen is a valuable sign. (*f*) Auscultation. Note the presence or absence of the signs of peristalsis. A friction may be early, within twelve hours of the onset. (*g*) Examination of the rectum—whether there is tenderness or any fulness between the rectum and the bladder. (*h*) The stools—the character, frequency, and the presence of blood or sloughs. (*i*) The urine—whether pain on micturition, frequency, &c. The onset of symptoms with pain about the bladder or in the penis is not infrequent when perforation takes place in the coils of the ileum in close contact with the bladder.

(3) *General condition of the patient.*—(*a*) Facies—whether there has been a change in expression; the presence of a risus sardonicus, marked or slight; the onset of pallor or of sweating; and the signs of collapse, as in cold hands, cold feet, and slight dusky suffusion of the face. (*b*) The pulse—whether a sudden change in the rate and force; the very rapid, running, thready pulse may not be present for twenty-four hours after the onset of perforation. (*c*) The temperature—whether a sudden drop or a sudden rise. (*d*) Respiration—a sudden increase, which is not infrequent; whether shallow and sighing. (*e*) Hiccough—sometimes a symptom of onset, more frequently late, when peritonitis is established. (*f*) Vomiting—whether with the onset of the pain; it is more frequently a late feature, associated with the presence of the diffuse peritonitis.

(4) *The blood count.*—The constant leukopenia in typhoid fever must be remembered. In a majority of instances in cases well followed there is a rise in the leucocytes, but this is not constant; they may be stationary. Also note the condition of the red blood corpuscles and the hæmoglobin. A decided drop may suggest hemorrhage. (*Lancet*, February 9, 1901.)

## TYPHOID, PREVENTION OF, IN THE FIELD.

Acid sodium sulphate, which is not official either in the United States or the British Pharmacopœia, proved to be an active substance capable of disinfecting water and rendering it safe. Parkes and Rideal (*Lancet*, Jan. 26, 1901) recommend that



sodium bisulphate be put in compressed tablets of five grains each, prepared in such a way that they dissolve quickly when added to water, and that they should in turn be placed in a small metallic box which will hold about a quarter of a pound of these, equivalent to 350 tablets. This will be enough to sterilise over one hundred pints of water at the rate of three per pint. A box of this character could very readily be carried by every soldier, and if three of the tablets were added to a pint of water fifteen minutes before it was drunk, they think that a large number might escape infection. As only in a few instances are drinking-waters so heavily loaded with typhoid bacilli as to make the disinfection difficult, it is highly probable that only in very badly polluted waters which have been infected by concentrated urine containing millions of typhoid bacilli would acid sodium sulphate prove useless. (Therapeutic Gazette, March 15, 1901.)

### TYPHOID, INOCULATION AGAINST.

(By Prof. A. E. Wright, of Netley.) I am indebted to the kindness of Colonel W. J. Fawcett, R.A.M.C., Principal Medical Officer in Egypt, for the following statistics dealing with the incidence of enteric fever and the mortality from the disease for the year 1900 in the inoculated and uninoculated among the British troops in Egypt and Cyprus.

	Average annual strength.	Number of cases of enteric fever.	Number of deaths from enteric fever.	Percentage of cases calculated on average annual strength.	Percentage of deaths calculated on the same basis.
Uninoculated ...	2669	68	10	2.5	0.4
Inoculated ... ..	720	1	1	0.14	0.14

These figures testify to a nineteen-fold reduction in the number of attacks of enteric fever, and to a three-fold reduction in the number of deaths from that disease among the inoculated. In a note appended to the statistical table printed above Colonel Fawcett observes that the measure of protection resulting from the inoculation is not fully disclosed by a comparison of the figures of cases and deaths given in the table. Owing to the circumstance that soldiers inoculated in previous years are in the statistics included among the

uninoculated, the number of the uninoculated was in reality less, and the number of the inoculated was in reality greater, than the figures set down for these groups in the first column of the above table. The figures in the second and third columns, on the other hand, accurately represent the number of cases and deaths in the inoculated and uninoculated, inasmuch as none of those inoculated in previous years contracted enteric fever. A further point adverted to by Colonel Fawcett is that the only case which occurred among the inoculated occurred in the case of a patient admitted to hospital on the thirty-third day after inoculation. It would seem that the disease was in this case contracted before anything in the nature of protection had been established by the inoculation. (Lancet, May 4, 1901.)

### TYPHOID URINE, DISINFECTION OF.

It is probable that in at least 30 per cent. or more of the cases typhoid bacilli are present in some stage of the disease; some estimate their presence as high as 50 per cent. In most of the cases the bacilli appear in the urine generally toward the second or third week of the disease, and soon disappear; but evidence seems to show that in only about 10 per cent. of the cases do they persist throughout convalescence. In many cases they have already been shown to be present in the urine for periods of months; indeed, in one case reported by Houston, the typhoid bacilli had existed in the urine for several years. Ordinarily they are present in pure culture, and often in great numbers; despite this there may not be any change in the appearance, or composition of the urine, nor need there necessarily be any appreciable lesion in the kidneys or elsewhere in the urogenital tract. Sometimes, however, signs of cystitis or renal implication are noticeable. The disinfection of the urine should be continued at least until health is completely restored. Almost any of the standard germicidal solutions may be employed for disinfection, carbolic-acid or bichloride of mercury solution will be found safest. Urine to which has been added one-third of its volume of a one-to-twenty solution of carbolic acid is thoroughly disinfected in a few minutes. (From a leading article in the Medical News, February 16, 1901.)

### VACCINATION.

[The following are taken from the conclusions arrived at in Dr. F. S. Fielder's excellent paper:] (1) The duration of immunity to smallpox which is conferred by vaccination is extremely variable, and in the presence of an epidemic, the fact of recent successful vaccination is only presumptive

evidence of immunity. Of persons successfully vaccinated within five years, very few will contract the disease ; but some will, though they will probably have varioloid instead of severe smallpox. (2) The duration of immunity to revaccination which is conferred by vaccination is also extremely variable, and is probably short (two years or under) in a larger proportion of cases than has been supposed. (3) The protective power of vaccination is in direct proportion to its excellence and completeness as shown by the number and quality of the resulting scars. Of the two elements which enter into this protective value, quality of scars is more important than number. (4) While the quality of a scar is a fair indicator of its protective power against smallpox, it is an untrustworthy guide in deciding whether the individual is susceptible to revaccination. (5) A person who is immune to smallpox can often be successfully revaccinated. (6) Revaccination protects against small-pox as fully as an attack of the disease protects against a subsequent attack. (7) A person who has been successfully revaccinated is much less likely to contract or to die of smallpox than a person who has been vaccinated only once. The more successful vaccinations one has had at different times, the more certain is his immunity, and the better his chance of recovery if he does contract the disease. (8) Revaccination, therefore, should be considered as important as primary vaccination, and should be just as systematically practised. (Medical News, March 30, 1901.)

### VACCINATION, UNTOWARD RESULTS IN.

Dr. Kubin gives the following causes for the various untoward results incidental to vaccination. (1) Impure virus. (2) Abnormal or paradoxical course of the cowpox itself. (3) Improper performance of the act of vaccination. This class may be subdivided as follows : (*a*) unclean instruments and hands of operator ; (*b*) improperly prepared surface for vaccination ; (*c*) imperfect dressing, which will allow secondary infection. (4) Neglect on the part of the vaccinator to exercise supervision and control of the patient until the time of complete healing. (5) Coincident diseases : scarlatina, measles, &c. (Medical Record, April 6, 1901.)

### VARICELLA AND VARIOLA, THE ERUPTION IN.

In smallpox, even in mild cases, the hands and feet are to some extent almost always involved ; whereas in chickenpox, even with a profuse eruption, the hands and feet are either unaffected or have but little eruption. The appearance of hard, tough,



circumscribed, and distended papules or vesicles on the hands or feet, particularly on the palms and soles, is an exceedingly important diagnostic sign of smallpox. Even in mild cases we are quite sure to find a few along the fingers and toes and palms and soles. In varicella the hands and feet are often singularly free from the eruption even when it is profuse on other parts of the body. In other cases a small number of spots may be found about the hands and feet, but they are few in comparison with the eruption in other parts of the body; besides, they do not often appear on the palms of the hands and soles of the feet. However, when this occurs, their nature will as a rule be made clear if they are considered in connection with the eruption on other parts of the body. I may add that the back presents the best surface to study the eruption of varicella. In regard to umbilication, which in the older text-books is spoken of as the pathognomonic sign of smallpox, I would say that it is a well-marked, constant, and valuable diagnostic sign of smallpox, but what will pass for and is regarded as umbilication is frequently found in chickenpox and some forms of syphilitic eruptions. This must be kept in mind. (From Dr. A. H. Doty's paper, Medical Record, May 4, 1901.)

#### VARICELLA RASHES.

Dr. Léon Cerf, in *La Presse Médicale* for October, 1900, says that in several of the eruptive fevers rashes appear besides the one which is regarded as the specific rash of that disease. In varicella a rash may occur, consisting of pale rose-coloured areas, scattered over various regions of the body, and fading under pressure of the finger. It usually lasts only for a short period, and may easily on this account escape notice. In some cases it closely resembles the specific eruption of scarlet fever, and may then suggest that the two diseases are co-existent. It appears most commonly in the pre-eruptive stage of the disease, preceding the vesicles by a time which varies from some hours up to two days. Sometimes it occurs contemporaneously with the ordinary varicella eruption. There are other cases where the rash is clearly post-eruptive, and where its appearance has not been followed by any fresh crop of varicella vesicles. De Cerf has collected a series of forty-five observations in which a rash was noticed. In forty of these cases the rash was of a scarlatiniform appearance. This rash was usually disposed in the form of large macules of variable size distributed without order over the cutaneous surface, and separated from one another by areas of healthy skin. The rash varied in colour from a pale rose to a deep red, and on this background a stippling of a darker violet hue was seen, giving to the eruption the appearance of granite. The edges of these areas

were usually clear and sharply defined, though in some cases the colouration faded gradually at the border to join the healthy skin. Three other varieties of rash have also been seen, but they are of much less common occurrence: (*a*) In one case a pale rose morbilliform rash appeared over the trunk and limbs. (*b*) In two cases a rash consisting of purpuric points was seen, and these did not fade on pressure. (*c*) In two cases rashes of mixed appearance were noted. The scarlatiniform type of rash is far the most commonly seen in these cases, and is of the most importance, from its resemblance to the rash of scarlet fever. Most of the ordinary symptoms of this disease may likewise be present. It is not accompanied by any pain, any sensation of burning, or any itching. Pressure with the finger causes the rash to fade for a time, but on drawing the nail over the surface one does not see the white streak with a red line in the centre which so commonly occurs in scarlet fever. Lastly, there is an entire absence of desquamation. It should in most cases make us more guarded in expressing an opinion, as it seems probable that these rashes are due to a secondary infection. (From abstract in *Treatment*, February, 1901.)

## YELLOW FEVER, THE MOSQUITO AND.

As a result of a series of experiments, Drs. Reed, Carroll, and Agramonte (*Jour. Amer. Med. Assoc.*, February 16, 1901) formulated the following, among other, conclusions: (1) The mosquito (*Culex fasciatus*) serves as the intermediate host for the parasite of yellow fever; (2) yellow fever is transmitted to the non-immune individual by means of the bite of the mosquito that has previously fed on the blood of those sick with this disease; (3) an interval of about 12 days or more after the contamination appears to be necessary before the mosquito is capable of conveying the infection; (4) the bite of the mosquito at an earlier period after contamination does not appear to confer any immunity against a subsequent attack; (5) yellow fever can also be experimentally produced by the subcutaneous injection of blood taken from the general circulation during the first and second days of this disease; (6) an attack of yellow fever, produced by the bite of a mosquito, confers immunity against the subsequent injection of blood of an individual suffering from the non-experimental form of this disease. (From a leading article in the *Boston Medical and Surgical Journal*, April 4, 1901.)

## Affections of the Nervous System.

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### ALCOHOLISM, AFTER-TREATMENT OF.

(From Dr. A. R. Braunlich's valuable paper.) For the anorexia which so often follows an acute attack of alcoholism, a prescription containing ten minims each of capsicum, nux vomica and ginger is often of great service. For this state of anorexia and general relaxation, exercise in the open air has been tried, but it was found that where patients walked much their convalescence was slower. Rest is an important element in the treatment of the exhaustion which follows acute alcoholism. If the alcoholic gastritis is severe capsicum is contraindicated, because it is so irritant. In a number of cases of wet brain, lumbar puncture was tried. In some of the cases improvement followed, but there seemed to be very little if any direct effect. At the beginning of excitement such as may come on sometime after an excess and its effects have passed off, thirty grains of bromide and fifteen grains of chloral, repeated if necessary, will prove a useful remedy. In general, forced feeding and sufficient stimulation are the important elements in the treatment of alcoholic cases, after acute symptoms have passed off. After an attack of delirium tremens, the patient must be tempted to take as much food as possible for at least a week or ten days. One of the members of the visiting staff at Bellevue uses so many eggs for his alcoholic patients that there has been a protest from the commissary department of the hospital because of the expensiveness of this article of diet at certain times. At least six to eight eggs a day should be used by convalescent alcoholics. They are the most easily digested concentrated food that can be used. After an attack of delirium tremens it must be remembered that patients are very prone to suffer from a most unquenchable thirst. Water should be given very freely then, and nurses should be instructed to see that at least every hour some water is offered to the patient, or a fresh supply set beside him. The aqua ammonii acetatis may be used freely and will be found to be very stimulating. (Medical News, February 9, 1901.)

### ANÆSTHESIA-PARALYSIS.

(From Dr. W. M. Brickner's paper.) The practical deductions as to the prevention of these always disagreeable and sometimes permanent sequelæ are very obvious:—(1) The care of the arms is as important a part of the anæsthetist's duty as is the administration of the narcotic. They should never be



allowed to hang over the edge of the table. This position threatens the musculo-spiral nerves by pressure, and the entire plexus by stretching. (2) Rotation and superextension of the head should be exercised only while emergency requires it. (3) Prolonged pressure of any kind should be avoided, be it that of an assistant's hand or body, or that of a harness. When used, the shoulder strap of a leg-holder should pass over the tip of the shoulder, or over a large pad of cotton wool on the neck ; or, best of all, should be held by an assistant (the anæsthetist can usually spare a hand to pull the strap up from the body from time to time). It should be remembered that this apparatus has occasionally caused paralysis in a leg, as in one of Garrigues's cases. (4) The common practice of drawing the arms alongside the head, however much it may contribute to the convenience of the anæsthetist and the comfort of the operator, is a bad one, and should not be tolerated. Remembering that in some of the cases reported (25) the arms were lying alongside the body during the operation, the safest rule to follow is to avoid allowing either arm to remain more than a few minutes in any one position, however innocent that position may appear to be. (New York Medical Journal, April 27, 1901.)

#### APOMORPHINE AS A NERVOUS SEDATIVE.

It is only recently that a number of clinicians have begun to employ apomorphine as a nervous sedative in cases in which morphine, for various reasons, seems contraindicated. Lewis, writing in the early part of 1900, reported that after using apomorphine in emetic doses in cases of alcoholism he was surprised to find that it quieted nervous excitation aside from any vomiting which it might produce ; and Douglass, writing earlier than Lewis, also stated that he believed it to be a useful hypnotic in many cases of insomnia. The dose commonly employed for this purpose is given hypodermically, and is  $1/30$  of a grain. But even this small amount may, in susceptible persons, produce vomiting, or at least nausea, unless the patient remains prone ; and therefore, if the drug is to be given to produce sleep, it should be employed after the patient has gone to bed. This dose by the stomach seems to be too slowly absorbed to produce any hypnotic influence. In some susceptible persons even a smaller dose is necessary than that already named. It would seem that apomorphine possesses certain advantages over other hypnotics by reason of the fact that the patient will be subjected to nausea and vomiting if he at any time attempts to take an excessive dose or continues it for too long a period in full quantity. (From a leaderette in the *Therapeutic Gazette*, January 15, 1901.)

**ARTHROPATHIES.**

Chipault has investigated the joint lesions which may follow upon injuries of the spinal cord, vertebral tuberculosis, and tumours encroaching on the spinal canal. In unilateral injuries (stab wounds) of the cord, the knee on the paralysed side has been observed to fill with fluid, with or without periarticular œdema, in the second or third week after the injury. In four cases of fractured spine, the author has also observed arthropathies, with effusion into the joint, coarse friction on movement, and changes in the bones and ligaments; also in Pott's disease, and in tumours of the vertebral column, he has observed effusion into the knee, frequently hemorrhagic in character. The author regards these affections as analogous to those observed in locomotor ataxia, and as the result of vasomotor disturbances as evidenced by the hemorrhagic effusions into the joint, and the congested condition of the articular structures.—*Centralbl. f. Chir.*, Leipzig, December 22, 1900. (*Edinburgh Medical Journal*, February, 1901.)

**BROMIDES IN DRUG HABITS.**

Dr. Elbert Wing recorded a fatal case of the morphine habit treated by enormous doses of bromide. He said that Dr. Macleod thinks the method without or with little danger, even at home. Dr. Church thinks it may be undertaken with full hospital facilities. The cases so far reported seem to point to the following conclusions: The method is not without danger, and should not be undertaken with heart, lungs, or kidneys not normal and not in septic conditions. Macleod's original dosage, viz., one ounce the first day, one ounce the second day, one half-ounce the third day, if necessary, should not be exceeded without first waiting twenty-four hours. If then resumed, it should be with great caution. In any case very perfect care should be taken to guard against taking cold.—In the discussion which followed, Dr. Church said that while the bromide treatment did cure the opium habit, it nevertheless remained a fact that 33 per cent. of reported cases had proven fatal, and emphasis was laid upon the fact that large doses of bromide might be dangerous.—Dr. Moyer said that Dr. Bannister and himself had presented in 1879 a joint paper read before the American Neurological Association upon bromide mania. It was clearly shown that small doses of bromide would cause mania in certain cases of otherwise perfectly normal individuals. Certain German observers have noted the same thing. Bromide is certainly capable of making most profound body disturbance. Mention was made of a patient losing fifty pounds of weight in three months, while taking moderate doses of



bromide. At another time the same patient lost thirty pounds in a similar way, but regained weight after discontinuing the salt. Dr. Moyer considers the bromide treatment of the opium habit and of alcoholism as unsatisfactory, and that we have better and safer means.—Dr. Lodor called attention to the fact that the dose, as given, of bromide did not represent the amount in circulation when the bromide was being given continuously. If 400 grains be given at a dose in twenty-four hours, but one-half of said dose will have been excreted, and Drs. Bill, Quincke, and Ware have severally proven that in forty-eight hours after a given dosage a sixth of the dose still remains in the circulation, and traces may be found in the urine weeks after cessation in the use of the bromide. It would then be very essential to use extreme care in continuing massive dosage of bromide.—Dr. Kuh maintained that the relatively smaller doses suggested by Dr. Wing, and even the withdrawal of the drug for twenty-four hours, did not constitute a safeguard. A case is mentioned where even 20 grains of the bromide four times a day had caused alarming symptoms.—Dr. Wing closed the discussion with emphasis upon smaller doses of bromide, and, where toxic symptoms appear, the withdrawal of the drug for at least twenty-four hours before further treatment. (*Journal Nervous and Mental Disease*, February, 1901.)

## BRUSH MASSAGE.

(From Dr. Frank R. Fry's paper.) As I have employed it, brush massaging consists in kneading all accessible portions of the body with brushes. The brush is kept in contact with the skin and manipulated with a combined circumductory and creeping movement, and with a varying degree of rapidity and pressure. The dry brush adheres to the skin, drawing with it the superficial structures in a way that can hardly be described, but which is readily discovered on trial. As the amplitude of the different movements depends much on the length of bristle and spring of the brush, the combined or special movement almost imparts itself to the hand of the operator, at least it is easily acquired. Specially constructed brushes are not necessary. From a good assortment of flesh brushes one may always select suitable ones for this purpose. I generally find well-made, leather-back ones the most acceptable. Working regularly with this method the operator soon understands how to graduate it to patients of greater or less sensitiveness, and when to use a soft and when a firm brush. Of course the attending physician should retain an intelligent surveillance; something, by the way, which many of us too often fail to do in placing patients in the hands of masseurs and the like. The method is effectual in the heaviest work for which massage is



employed. On the other hand, when the most gentle manipulations are required, I have been equally pleased with it, for example, in several cases of torticollis and other tics, certain cases of tabes which could not tolerate ordinary massage, neuralgias, neuritis, &c. It is an excellent means of relieving lithemic and neurasthenic aches and pains of all descriptions, and especially the neck and back paresthesias, which torment this class of subjects. It is a good daily exercise for the ordinary run of neurasthenics, many using the dry brush upon themselves daily when not situated to have the rub from other hands, which is always much preferable. (*Journal Nervous and Mental Disease*, January, 1901.)

### CORD, DIAGNOSIS OF DISEASES OF.

Dr. Edward D. Fisher said that the diagnosis in diseases of the spinal cord was dependent on knowledge of the structure and functions of the different parts of the cord. The anterior horns controlled the nutrition and action of the muscular system. Any destruction of this region must cause paralysis and wasting of the muscles involved. The lateral tracts were essentially motor in function, having no sensory or nutritional influence. Hence disease involving these tracts caused only paralysis without wasting of the muscles; and as cerebral inhibition was cut off, exaggerated reflexes, as seen in lateral sclerosis. The posterior tracts were entirely sensory in function; disease here must cause disturbance in feeling and co-ordination, dependent on sensation, as seen in locomotor ataxia. The principal diseases under these headings were easily classified as follows:—  
 (1) Diseases of the anterior horns, as poliomyelitis acute and chronic, progressive muscular atrophy, and hemorrhages into the cord substance. All these diseases were especially characterised by paralysis with atrophy of the muscles. (2) Diseases of the lateral or crossed pyramidal tracts, as seen in lateral sclerosis following myelitis, injuries, Pott's disease, &c., in which there was paralysis without atrophy. (3) Diseases of the posterior columns or tracts, which, being only sensory in function, gave sensory disturbance without paralysis or atrophy, as seen in tabes. (*Medical Record*, February 2, 1901.)

### CRETINISM, SPORADIC, THYROID MEDICATION IN.

[Dr. P. F. Barbour relates a case, and makes the following remarks:] There are several features which must be watched in the administration of thyroid extract. With the improvement in the myxœdematous condition there is a loss of weight until the mucoid substance has been absorbed from the skin and eliminated. The increased metabolism is apt to produce fever,

which is a disadvantage, and indicates a rapid cell metamorphosis. With the advent of fever the remedy should be discontinued, and then its administration cautiously resumed. There is usually a marked increase in height committant with the loss in weight. But when the myxœdematous condition is relieved there is again an increase in weight. The action of the heart is frequently accelerated. With an overdose there are apt to be marked and disagreeable vasomotor symptoms, so that the pulse rate should be watched, and the dose increased or diminished accordingly. Several observers have noted the effect of thyroid medication in increasing the growth of the long bones. In some cases the growth has been so rapid as seriously to impair their strength, and exaggerated curvatures have been the result. It is necessary to continue the observation and treatment of these cases after these cretinous symptoms have been relieved, though it has been found that the occasional administration of a large dose is sufficient to maintain the effect of the medicine. (Pediatrics, May 1, 1901.)

### CYSTICERCUS OF THE BRAIN.

Out of 1,200 sections cysticercus was found nine times. In some institutions the percentage had reached two. It was interesting that *tænia solium* became gradually rarer. Of the nine cases four were born in the first quarter of the last century, three others in or before the middle of it. *Tænia solium* was then more frequent. As regarded diagnosis, four of the cases were distinct from the others, as in them no symptoms whatever were present. In one of the other cases *lues cerebri* was suspected, as syphilis had been present. Multiple softening was supposed to be the cause in two other cases. In the two remaining cases senile dementia was supposed to be the cause, although other symptoms were present. In one woman several attacks of aphasia occurred during the course of twenty-four years. At the autopsy cysticerci were found in the left third frontal convolution. (From report of Dr. Geelvink's paper, Medical Press and Circular, January 23, 1901.)

### DISSEMINATED SCLEROSIS IN MALARIA.

(By Prof. W. G. Spiller, *Amer. Journ. of the Med. Sciences*, December, 1900.) The patient, a sailor, born in 1856, had a chancre in 1871. In 1891 he had a slight hemiplegia (shown by the necropsy to be organic cerebral disease), which disappeared altogether in four weeks. He complained of headache, dizziness, and ringing in the ears for five years, until the fall of 1895, when he was relieved by medicine. In December, 1895, headache and vertigo returned, and he had in addition



drowsiness and diplopia. About this time he was suddenly, without loss of consciousness, seized with left hemiplegia. This seizure was not due to any disease of the corresponding pyramidal tract. Recovery of power took place rapidly, but a difficulty in walking and inability to hold objects well with the left hand remained. In November, 1896, there was marked ataxia without weakness of left leg and pronounced intention tremor of the left hand. The speech was decidedly scanning, and marked vertical nystagmus was easily elicited. Tendon reflexes exaggerated on the right side, but not on the left, and there was right ankle clonus. These symptoms continued unchanged until death in September, 1899, after diarrhoea for a week. During the last few days of life the temperature varied from below 98 deg. to over 103 deg. The spleen was found to be enlarged, and the small blood-vessels throughout the brain and cord were filled with malarial parasites. No explanation of the transitory weakness of the left side of the body could be found, but in the left cortex there were recent hemorrhages and capillaries closed by the parasites. A few cases of disseminated sclerosis attributed to malaria have been reported. Dr. Spiller's, however, is the only one completed by a necropsy. (*Quarterly Medical Journal*, May, 1901.)

## DURA MATER, TUMOURS OF.

Dr. E. F. Trevelyan (Leeds) first referred to the minute structure of the dura mater. Of three specimens of psammoma shown two originated from the falx cerebri, and the remaining one from the dura mater over the Rolandic area. A fourth psammoma, of which sections only were shown, started from the meninges of the base. All these tumours were of small size, with the exception of one of those which sprang from the falx. The other tumour growing from the falx was hard, and contained much calcareous material, whereas the growth over the Rolandic area was quite soft. Both these tumours only contained well-formed fibrous tissue in addition to the psammoma bodies. The remaining two tumours belonged to the endotheliomata. The large tumour was directly responsible for death, whereas the basal tumour was an accidental find at the necropsy. The patient with the psammo-fibroma over the Rolandic area fell down the stairs probably in an attack of vertigo, and sustained a fatal fracture of the base. The only symptoms present here during life were two or three attacks of fainting or vertigo during the last few weeks of life. Dr. Trevelyan referred to another case of a small fibro-sarcoma of the dura indenting the temporo-sphenoidal lobe in which death was sudden, and no other lesion was found in the body. Of



two specimens of osteoma of the dura, the one showed several small bony growths on the outside of the dura, and the other, a single growth, proved to consist of pure bone, and presenting the shape of a limpet shell. A specimen of multiple tuberculous growths from the dura in the posterior fossa was also shown, as well as a gummatous growth of the meninges over the arm centre in which the pia-arachnoid appeared to pass beneath the growth. (From report of the Manchester Pathological Society, British Medical Journal, February 23, 1901.)

## EPILEPSY.

Dr. Harold N. Moyer says that epilepsy is a symptom-complex, but unlike chorea and other symptomatic disorders of the nervous system, any of the features which make up the attack may be absent in a particular case. The definition of epilepsy by Donath seems to be as satisfactory as any so far proposed. It is this: "An abnormal excitement of the cerebral cortex which increases suddenly, is periodical in its manifestations, has a typical course, and disappears rapidly. Whether the attack occurs without unconsciousness and amnesia depends upon the strength and extent of the irritation." The ordinary classifications of grand mal and petit mal are provisional only as they relate to the severity of the convulsions, the one shading into the other, but such a definition is useful. A lapse of consciousness is the most constant feature in an epileptic seizure, but it may be absent even in cases which are characterised by convulsions, though the latter is very rare. In petit mal the loss of consciousness is very slight, or may not occur at all. Jacksonian epilepsy is by no means clearly demarcated from other forms, but it is so commonly understood to mean those attacks which begin in a limited area of the cortex and extend by continuity. Sometimes the convulsions become general with a loss of consciousness, but more frequently they are only partial. The greatest difficulty in the diagnosis of epilepsy is the so-called equivalents, which are simply psychical states sometimes marked by automatic acts, alteration in the emotion or dream states. They may consist in alterations in the sensory perceptions, the so-called auræ. A very unfortunate combination of words is that known as hystero-epilepsy. These cases are hysteria, and not epilepsy. They are distinguished from true epileptic attacks by the absence of an initial cry, the movements are at least co-ordinate if they do not have a purposive character, the tongue is not bitten, the patients do not injure themselves. The duration of each convulsion is several hours with frequent remissions. Consciousness is generally preserved. Emphasis was laid upon the importance of the early recognition of epilepsy. (Medical News, April 13, 1901.)

**EPILEPSY, A MODIFIED FLECHSIG'S METHOD IN.**

The plan of Dr. Meyer and Dr. Wickel is to begin the treatment with opium alone, commencing with small doses—*e.g.*, five centigrammes three times a day, which are gradually increased until in about six or seven weeks the dose is nine centigrammes. This maximum dose is given only for one day, after which a bromide mixture is substituted for it, *viz.*, potassium bromide one part, sodium and ammonium bromides each one part, the dose of the mixture being six grammes. The doses of the bromide mixture are now steadily increased till in a week they reach nine grammes per dose. This amount is the maximum dose, and it is continued for a long time and until definite improvement occurs. Under this method of treatment it is necessary that the digestive functions and the functions of the skin should be carefully regulated. Diet should be light and easily digestible, all nitrogenous foods or beverages, such as beef, coffee and tea, meat broths (which generally contain nitrogenous extractives), acids, sauces, and the like, being avoided or reduced to a minimum. The gradual increase of the dosage of opium, followed by the administration of the bromide mixture, together with a systematic regulation of baths and diet, constitute the essentials of the new treatment. (From a leaderette in the *Lancet*, January 26, 1901.)

**GENERAL PARALYSIS, MEDICO-LEGAL ASPECTS OF.**

Dr. Conolly Norman read this paper before the Royal Academy of Medicine of Ireland. He said that it is natural that the great cerebral disease which forms in itself an epitome of all mental affections should often bring its victims into conflict with the law. But besides the general tendency of all mental disease to cause maladjustment with the social environment, often expressing itself in the form of "crime," there appeared to the speaker to be certain special features in the criminality of the general paralytic which made him of particular interest to the medical jurist. Dr. Norman proceeded to consider the general paralytic's offences under three heads: (1) Violence, of a peculiar brutish and irrational character; (2) sexual impropriety, depending, no doubt, in part upon the lack of judgment, which is the essential feature of the malady, and partly upon the sexual irritability common in its earlier stages; (3) theft. A number of cases were detailed, exemplifying each form, and some illustrating all. With regard to theft, the speaker pointed out that the common notion is quite erroneous—namely, that the thefts of the general paralytic are always *vols à l'étalage* and characterised by silliness and absence of purpose. On the contrary, in certain cases which he



mentioned, fraudulent acts of considerable subtlety had been the earliest overt symptoms of general paralysis. (Dublin Journal of Medical Science, December, 1900.)

### HEADACHES OF NASAL ORIGIN.

A. E. Ewing and G. Sluder (*Trans. of the Amer. Ophthalmol. Soc.*, 1900) find headaches attended with tenderness on pressure over the pulley of the superior oblique muscle and the surface immediately adjoining are due to conditions of the anterior ethmoidal cells. Even when the headache appears to be aggravated by eyestrain, relief is afforded only by establishing a free communication of these cells with the outer air. They suggest that the pain and tenderness are due to disturbance of the air-pressure within the sinuses. Absence of the ordinary symptoms of ethmoidal disease by no means excludes the closure of the affected passages by permanent thickenings or temporary swelling of the mucous membrane. (American Journal of the Medical Sciences, December, 1900.)

### HEAD - NODDING.

Discussing this subject, Miller (*Arch. Pediat.*, N. Y., August, 1900) considers that rickets is probably the most important predisposing cause. In some cases, infectious diseases and gastro-intestinal disorders frequently precede the condition, whilst in others convulsions in the child, or in other members of the family, seems to be associated with those spasmodic movements. The author considers it very improbable that teething has any influence in their production, although the majority of cases occur between the sixth and eighteenth month, coincident with the eruption of the teeth. Horizontal lateral movements are much commoner than the vertical or nodding variety. The head is frequently cocked on one side in a very peculiar way. Nystagmus almost invariably accompanies this condition. The peculiar movements are not to be confused with habit spasm, head-banging, or other choreic affections, or with the automatic movements of the feeble-minded. (Edinburgh Medical Journal, April, 1901.)

### HYDROCEPHALUS, RECOVERY FROM ACUTE.

In an example of this extremely rare occurrence recently reported to the Berlin Society of Internal Medicine by Neumann (*Deutsche Medizinisch-Zeitung*, November 12) the disease was interpreted as a syphilitic manifestation. The patient, a child seventeen months old, was shown at the meeting. It had come under Neumann's treatment when it was



five months old, at which time the head had become very large and the mother feared that it contained water. The history given then was that when the child was between two and three months old it had suffered with a cutaneous eruption, and manifestly it had had antisymphilitic treatment. It still had the yellowish-grey tint of skin characteristic of infantile hereditary syphilis. The hydrocephalus was typically developed; the circumference of the head was forty-seven centimetres, the forehead bulged decidedly, the fontanelle was gaping, and the child was backward in mental development. Syphilis being assumed to be the cause of the disease, treatment with potassium iodide was begun, and the result was astonishing. In so short a time as thirteen days the circumference of the head had decreased by several centimetres, the widened sutures had closed, and the anterior fontanelle, previously prominent, was so sunken that the edges of the surrounding bones stood out, not having been able to recover their proper form fast enough to keep pace with the diminution of the cranial contents. The improvement advanced steadily; the vault of the skull became firm, the fontanelle grew smaller, and the child acquired the mental development proper to its age, being sprightly and cheerful. It began to talk when it was eleven months old, and the teeth made their appearance in due number; at that time there were already two canine teeth. A syphilitic disease of the eyes accompanied the hydrocephalus; the retina was clouded with white and the pupil was hazy. This affection, too, improved *pari passu* with the hydrocephalus, so that at the time the child was shown only a few little white spots remained on the fundus. Four grains of potassium iodide had been given daily, and a number of inunctions of fifteen grains of mercurial ointment had been employed. Evidently this case may be looked upon as a striking example of the enhanced susceptibility of cure shown by the gravest affections of the central nervous system when they owe their existence to syphilis. (A leaderette in the New York Medical Journal, January 5, 1901.)

## HYSTERICAL HICCOUGH CURED BY ETHER NARCOSIS.

(By Dr. A. Pastena, *Gl' Incurabili* for October 15, 1900.) The author remarks hiccough is by no means an infrequent symptom in hysteria, and often it is a very annoying and very obstinate manifestation of the hysterical condition. This affection may be provoked by severe emotion, or may arise without any apparent cause; it may occur in paroxysms lasting a few minutes only, or it may persist for hours, for days, for weeks, or even for months. The histories of two cases of this

troublesome form of hysteria are recited: In one case the symptoms had persisted during twenty days, and had been rebellious to all the usual methods of treatment. There was a markedly neurotic family history, the father having died insane, and a brother suffering from epilepsy. The patient was much depressed, and was very anxious to be relieved of her infirmity. She was etherised, and showed no excitement during the process of inhalation. On recovering consciousness, the hiccough had vanished. The trouble did not return, and she was discharged cured. The second case was that of a woman of twenty-one, who had first given evidence of hysteria at the age of fifteen, in the form of paralysis of a lower extremity, and of anæsthesia of the same limb. At the age of twenty-one, and after a shock, she commenced to hiccough. The ordinary treatment, including that of electricity, was tried, but found futile; she came to the author with the idea of being cured by hypnotism. This method was tried, but failed completely. She was then etherised, and the administration was attended with much excitement. But the hiccough ceased from this moment, and did not return. Considering the extreme difficulty of dealing with these cases, and the complete failure which often attends the best thought-out mode of treatment, the simplicity and novelty of the curative method adopted by the author of this paper render it well worthy of being borne in mind. (Abstract in Treatment, January, 1901.)

## INFLUENZA AND THE NERVOUS SYSTEM.

The following are Dr. Mosher's conclusions:—(1) The infection of influenza produces a toxin, which has a severe and selective action upon the nervous system. (2) The immediate effects of this toxin are shown in affections of the peripheral nerves and the cerebro-spinal centers. (3) The remote effects are manifested in lowered tone of the nervous system, predisposing to other diseases. (4) These ensuing diseases arise in weakened or predisposed organs, giving rise to the different classes of "respiratory," "alimentary," "genito-urinary," and "circulatory" forms of influenza. (5) Post-influenzal insanities are also a complication of the post-influenzal states of nervous debility, in patients mentally predisposed. (6) The post-influenzal insanities are not essentially different from other insanities due to vital depression. (7) The prognosis of influenzal affections is generally good, under proper management. (8) Exception to this is in influenzal affections arising during the course of other severe diseases, as pneumonia and general paralysis, and during senility complicated by mental or physical deterioration (Medical News, December 15, 1900.)



**INSANE, THE CERTIFICATION OF THE.**

Dr. Porter draws attention to the following important group of cases :—There is a class of case in which greater latitude in the form of certification is, I think, required. There are cases of insanity, not unfrequently presenting suicidal or homicidal tendencies, in which the patient can, for the time being at all events, exert an extraordinary amount of self-control and cunning in the concealment of his condition. The evidence of relatives and others who have seen him in all his moods may be clear, credible, and well corroborated, and you may be satisfied in your own mind that you have to deal with a case of insanity which is liable to assume a dangerous form. Such peculiarities as you are able to observe for yourself—signs of restlessness, nervousness, shiftiness of expression, or sullenness of manner—may be, in the aggregate, significant enough to you in relation to the statements of others ; but when stated in writing, within the official limit of a few lines, hardly sufficient to convince anyone who has not had the same opportunity of a personal interview with the patient. Sometimes even on repeated examinations the same difficulty is met with ; and such a patient may have to be allowed to go at large, though you may believe him to be a dangerous lunatic perhaps. (*Quarterly Medical Journal*, May, 1901.)

**LANDRY'S PARALYSIS.**

Dr. L. A. Rowden read notes of a case of descending Landry's paralysis in a child, before the Leeds and West Riding Medico-Chirurgical Society. The child, a lad aged 10 years, had hooping-cough in 1897 and cholera in 1898, but had since been in good health. On September 14, 1900, he slipped into a pit, but seemed none the worse. On the 15th he appeared to have a stiff neck, and on the 16th he did not seem very well and had a restless night. On the 17th there was paralysis of the muscles of the neck and of the deltoids with a temperature of 103 deg. F. On the 18th there was complete paralysis of the neck, arms, forearms, &c., and intercostals, and later the muscles of the legs, face, and tongue became affected. The child died completely paralysed in all his muscles at 1 a.m. on the 19th from cardiac failure. The diagnosis was based on (1) progressive, symmetrical, motor paralysis ; (2) no disturbance of sensation ; (3) absence of rigidity, twitching, pain, or tremor ; (4) mental functions unimpaired ; and (5) no loss of control over the emunctories. There was no evidence of scarlet fever or diphtheria in the case, and the fall seemed to be a coincidence, as there was no injury to the spine. (*Lancet*, November 10, 1900.)



**MENINGITIS, CEREBRO-SPINAL.**

Major Harold Brown, I. M. S. (*Indian Medical Gazette*, January), in a report on an epidemic of cerebro-spinal meningitis in Calcutta, says: "To sum up the treatment, it may be said that fulminant cases will die, whatever treatment be adopted, while the 'atypical' ones will recover with mere rest in bed. In the acute and subacute ones, general measures must be adopted, and symptoms should be treated on common sense principles, but it must be remembered that the sooner a case is removed from the place of infection, the better will be the chance of recovery." (*New York Medical Journal*, February 22, 1901.)

**MENINGITIS IN CROUPOUS PNEUMONIA.**

Giuseppe Pollaci (*La Riforma Medica*, February 16, 18, and 20, 1901) says that the presence of one or of a very few symptoms is not sufficient for the diagnosis of a meningitis complicating pneumonia; but when all the characteristic symptoms are present (increased temperature, retention of urine, rigidity of the back of the neck, headache, delirium, venous stasis of the retina, &c.), we may be sure of our diagnosis. A few isolated symptoms, with negative symptoms of the fundus of the eye, might be caused by an inflammatory condition of the cerebral membranes, it is true; but might with equal justice be attributed to functional lesions of the nerve centres, produced by the toxic elements arising from the pneumonic process. (*Medical Record*, April 6, 1901.)

**MENINGITIS, RECOVERY FROM TUBERCULOUS.**

It has been so often claimed, and as repeatedly denied, that recovery from tuberculous meningitis is not only possible, but has occurred, that we gladly welcome any fresh light upon the question. The following case, which need not be referred to except in its merest outline, seems therefore to be worthy of notice, as it supplies apparently indubitable proof of the tuberculous nature of the meningitis. Henkel (*München. med. Wchnschr.*, June 5, 1900) records the case, which showed the symptoms of cerebro-spinal meningitis, and which ran a long and tedious course. The nature of the meningitis was cleared up by the finding of the tubercle bacillus in the cerebro-spinal fluid. It may be noted that calomel was the only remedy given internally. (*Edinburgh Medical Journal*, 1901, p. 82.)

**MYASTHENIA GRAVIS.**

(By Dr. Harry Campbell and Dr. Edwin Bramwell, *Brain*, Summer, 1900.) The authors have succeeded in collecting as many as sixty cases of this rare disease. Of the sixty cases

twenty-three ended fatally. Beyond regulating the patient's life so as to avoid muscular fatigue as far as possible, and trying to guard against the risks of swallowing, but little can be done by treatment. The use of the stomach tube is very risky. Faradism, galvanism, and massage appear to do no good. With regard to the diagnosis it is, of course, of great practical importance not to mistake myasthenia gravis for either hysteria or neurasthenia. The myasthenic reaction is not always present. It occurs in some cases as a passing symptom, whilst in other cases it has not been obtained. (*Quarterly Medical Journal*, February, 1901.)

### NERVOUS DISEASE, ORGANIC AND FUNCTIONAL.

Associated with organic nerve disease we find frequently some degree of functional disturbance. For example, in a case of hemiplegia due to cerebral hemorrhage a certain amount of damage is done by the hemorrhage to the conducting paths from cortex to spinal cord, some nerve fibres are ruptured and permanently damaged ; but other parts of the nervous system are damaged temporarily by pressure of effused blood or disturbed circulation. As the pressure is relieved by absorption of the clot or restoration of impeded circulation these diffuse symptoms disappear ; the functional element is removed, the organic remains. Or, again, in cases of degenerative disease of the brain or cord, such as tabes dorsalis, the symptoms depend upon actual degeneration of the neurons. But besides those neurons which are degenerated others are merely impaired in function, and so certain symptoms depending upon lowered functional activity are associated with those dependent upon complete destruction of the neurons. Again, the association of hysteria with organic nerve disease is well recognised, an association which frequently obscures the diagnosis. In cases of disseminated sclerosis one meets with intercurrent attacks of functional or hysterical hemiplegia or paraplegia. (From Dr. George E. Rennie's paper, *British Medical Journal*, May 4, 1901.)

### NEURASTHENIA, CLIMATIC TREATMENT OF.

(From Dr. Savary Pearce's paper.) It is almost axiomatic that an altitude of over 2,000 feet is unsuitable for the neurasthenically-disposed or convalescent patient. Any very "stimulating" climate should be avoided. Other conditions to be avoided are as follows:—Districts menaced by high winds and frequent fogs ; cloudy, saturated atmospheres with but slight movements of air-currents ; low country (sea level) with continuous, non-varying, although moderate heat, as where the effects of the Gulf Stream is strongly felt. Thus the Bermuda



Islands and Florida are enervating localities. Ideal conditions for the neurasthenic include sea-air in a well-wooded country, far enough from the coast to avoid its fogs. A sea-voyage is, as a rule, an excellent preliminary to other climatic measures. Provided the voyage is not stormy it acts both psychically and physically in soothing the nervous system. In order to obtain the full benefit of correct climatic conditions the patient must have good food. Without this important adjunct the desirable climatic change may be entirely defeated in its effect on the patient. (Medical News, January 26, 1901.)

### NEURASTHENIA, THE TOXIC ORIGIN OF.

(From Dr. M. Allen Starr's paper.) One can recognise clearly cases that are due to anxiety and worry; cases that are due to over-exertion, mental and physical; cases that are due to beginning degeneration of the neurons, destined to go on to organic disease; and lastly, cases that are distinctly toxic in their origin. It is to the latter class that I wish to direct attention at the present time. The chief symptoms in this form of neurasthenia are headache, dull pressure in the head and back of the neck, sensations of fulness in the head with inability to concentrate the attention, irritability of temper, manifest irregularities of the circulation shown by cold extremities, and by frequent flushings and burnings in different parts of the body, and general disorders of the digestion, either of the nature of acid dyspepsia, or of considerable evolution of gas in the stomach and intestines, with irregular and very offensive stools. In these cases the urine is irregular in quantity, at times scanty, of high colour and of high specific gravity; at other times profuse, light, and of low specific gravity, and at all times it contains large quantities of indican or indoxyl. In this condition a mild state of melancholia is very frequently associated with the neurasthenia, and in almost all cases of mild beginning melancholia the same symptoms are present. The chief characteristic of this type is the alternation of feelings and symptoms at different times of the day. One can draw a curve representing the intensity of symptoms in these patients with remarkable accuracy, a depression in the curve representing the depression of spirits and intensity of suffering. (Medical Record, May 11, 1901.)

### NEURITIS, PERIPHERAL, IN ALCOHOLICS.

(From Dr. Nathan Raw's paper.) During the last three years, out of 12,623 patients admitted into Mill Road Infirmary, Liverpool, under my care, there have been 226 cases of alcoholic neuritis, of which number 127 have presented symptoms which



might be attributed to arsenic. Of these 226 cases of alcoholic neuritis 51 died, the apparent cause of death being general asthenia, with cardiac failure in most of the cases. With regard to the cause of alcoholic neuritis, I am convinced that, from a careful observation of a large number of cases, beer and porter are the general drinks consumed, by far the greater number being due to beer alone, but I have certainly seen cases of undoubted alcoholic neuritis where the patients have only taken brandy and whisky. The great majority of cases of ordinary alcoholic neuritis occur amongst women of the poorer classes, and in Liverpool it is the custom for women to congregate in each other's houses, and send for cheap beer during almost the whole of the day. As far back as last August I commenced a thorough investigation into the cause of this great increase of neuritis, and I actually settled upon the beer as the cause, but I put it down to an increase of drinking amongst the poor, probably due to the war, and extra pay received for relatives. I certainly never suspected arsenic, and it was only when I read the brilliant discovery of Dr. Reynolds that the whole thing was made plain. I am convinced on one point, viz., that alcohol seems as it were to affect the peripheral nerves in such a way as to render them very liable to be attacked by arsenic if taken into the system. (Liverpool Medico-Chirurgical Journal, March, 1901.)

### PARALYSIS AGITANS.

The attention of physicians has lately been drawn to the fact that early in the course of paralysis agitans certain very characteristic spasmodic muscular contractions occur. In several cases of paralysis agitans a peculiar symptom has been noticed, viz., that the patients were subject to a contraction of the toes which made them flex or curl up under them so that they were liable to be thrown down, and it would appear that this symptom is the immediate precursor of other recognised symptoms of paralysis agitans. The duration of the "contraction period" is variable. In regard to one patient who complained of this contraction of the toes, at the time the man came under observation nothing was known of the significance of the contractions complained of, and his medical advisers were at a loss to account for it. Two years later, however, the man was seen again, when he presented the typical signs of paralysis agitans. On looking through their case books, this symptom was found not to be altogether infrequent. One woman with paralysis agitans stated that the first thing she noticed was that her right toe used to be drawn up. In another case the patient volunteered the information that the trouble

had commenced with the contraction of the fingers. Though the symptoms of paralysis agitans may be said, on the whole, to be simple, and the disease as a rule not difficult to diagnose, every assistance in early diagnosis is of value. (A leaderette in the Medical Press and Circular, April 10, 1901.)

### REFLEX, THE PLANTAR.

The following are Dr. Morse's conclusions :—It is evident that there is no constant plantar reflex in the first year, and that while the reflex approaches the adult reflex during the second year, it is still inconstant. It is also evident that since there is no constant reflex under normal conditions during the first two years, no conclusions can be drawn from the presence, absence, or character of the reflex in the diagnosis of abnormal conditions of the nervous system at this age. Further observations are necessary to show at what age the normal reflex is established. It is undoubtedly later than the second year. (Pediatrics, January 1, 1901.)

### REST IN BED IN ACUTE MENTAL DISEASE.

(By Korsakov, *Archives de Neurologie*, October, 1900.) The writer's views on this subject are very reasonable and eminently practical. The therapeutic effect of rest in bed is, he says, incontestable. Certain grave forms of mental disease, such as acute delirium and febrile delirium tremens, have become under this *regime*, almost non-fatal, other forms with maniacal excitement follow a much more tranquil course, cases of suicide in melancholia have become rarer, and there is more conservation of the vital forces of the exhausted. Hence its use is indicated in the greater part of the excited cases, particularly in the purely maniacal, in febrile and exhausted patients, in melancholiacs, and in almost all cases affected with the acute psychoses in the initial period. Rigorous individualisation is insisted upon in carrying out the system. (Glasgow Medical Journal, December, 1901.)

### SENSORY AREAS.

(By Dr. Hans Haenel, *Münch. med. Woch.*, January 1, 1901.) Head found that certain visceral disorders were associated with increased sensibility of the skin over sharply defined areas, differing in position and extent with the various organs affected. These hyperalgesic zones were found not to correspond with the areas of distribution of the fibres running in the posterior roots of the respective spinal nerves; but on comparison with the arrangement of the spinal segments, the representation of which



on the skin has been learnt from a study of gross lesions of the spinal cord, an accurate correspondence was established. The method of detecting the increased sensibility to slight painful stimuli which Haenel employed was to draw a blunt-pointed pencil, or better, one guarded with a metal protector lightly over the skin. Another method was to use a minimal Faradic current, which, being barely felt over the normal areas, became at once apparent over the hyperalgesic zones. He depended mostly upon the patient's judgment of the increase in sensibility, though, as a control, an increase of skin reflex was often noticeable when the affected area was reached. These hyperalgesic zones have been found in many diseases, in heart disease with failing compensation, in phthisis, in many disturbances of the female genital organs, in cases of hypertrophy of the prostate, in cystitis, nephrolithiasis, and in various affections of the alimentary tract. In about one-third of the cases of gastric trouble that the author examined there was evidence of some skin hyperalgesia to be found. In cases of undoubted gastric ulcer fourteen showed areas, more or less extensive, of hyperalgesia, while five cases presented a negative result. Among a further group of cases, some of which were in all probability ulcer of the stomach, while others were cases of dyspepsia, acute gastritis, &c., the discovery of hyperalgesic zones was somewhat uncertain, and did not give any constant indications of value in diagnosis. In a considerable number of gastric cases the zone of greatest sensitiveness corresponded to the seventh, eighth, and ninth dorsal segments, which are evidently those most closely associated with the stomach, though zones corresponding to the third and fourth cervical segments were in many cases also affected. Difficulties are introduced, however, by the skin areas corresponding to the different viscera overlapping to a considerable extent, and further, Head came to the conclusion that the usual limits may be overstepped if such complications as a sudden febrile attack, profound anæmia, shock, &c., co-exist, a more or less extensive "generalisation" of the skin hyperalgesia then taking place. The author found, in addition, in many of his gastric cases, hyperalgesic zones on the thorax and arms, corresponding to the second and third dorsal segments, the inner aspect of the upper arm and the skin over the deltoid being mainly affected. The author bears out Head's observation that affections of the serous membranes form exceptions to the general rule. If these be associated, as they often are, with areas of tenderness and increased sensitiveness, it is found on careful examination that the boundaries of these areas are irregular and bear no relation to those of the spinal segments. (From Dr. C. H. Melland's abstract in the Medical Chronicle, February, 1901.)



**SYPHILIS, MENTAL DISEASE IN.**

Insanity due to syphilis has, in many cases, characteristics which, though not easy to describe, are indicative of a specific origin. There is, however, a small proportion of syphilitic insanity that is represented by the usual forms of mental disorder. It is quite correct to say, therefore, that syphilitic insanity may mimic every known form of mental derangement, simulating acute mania, ordinary melancholia, terminal dementia or resembling so closely parietic dementia that experts may differ in their diagnosis. There is nothing characteristic in the mania of syphilis while the maniacal stage lasts, and the same statement applies to forms of depression due to syphilis. The history of the entire course of the attack is, however, often suggestive of a specific origin. The mania of syphilis is, in my experience, apt to be of rather brief duration and followed by mental confusion or mental weakness with intervals of quiet and semi-lucidity, showing the usual irregularity of syphilitic brain affections. The same is true of syphilitic melancholia, as there is the same irregularity, brief depression with much confusion, outbursts of excitement, periods of stupor, and early dementia. While, therefore, these forms of syphilitic mental disorder may for a brief time be quite like ordinary forms of insanity, there are few cases that will, if their entire history be considered, fail to present the irregular features mentioned, and which may often be regarded as circumstantial evidence of a specific origin. In the majority of the cases of brain syphilis the mental symptoms are largely negative. There is a loss of mental power, of self-control, of the self-regarding virtues, of moral sense, and a general lowering of the individual mentality. The memory is much impaired, only the simplest kind of reasoning is possible ; the emotions are imperfectly controlled ; there is a state of dulness and indifference, occasionally broken by an outburst of causeless anger, or a fit of crying, or an hour of depression with a quick return to the prevailing state of mental apathy ; these are prominent characteristics of the more common form of cerebral syphilis in which mental symptoms are conspicuous. (From Dr. J. H. McBride's paper, *Journal of the American Medical Association*, February 2, 1901.)

**TABES DORSALIS.**

The following are the percentage numbers representing the occurrence of the various symptoms of tabes in 286 cases, from Dr. Starr's clinic :—Loss of knee-jerks, 95.2 per cent. ; changes in knee-jerks, 3.69 ; Romberg symptom, 79.02 ; change in pupillary reaction, 78.67 ; pains in the legs, 78.67 ; ataxia in legs, 70.62 ; vesical disturbance, 62.23 ; paræsthesia and numbness, 54.54 ; girdle sensation, 48.6 ; loss of muscular sense,

28.32 ; crises, 16.78 ; pains in trunk, 12.93 ; optic nerve atrophy, 8.74 ; ataxia in arms, 7.69 ; pains in arms, 6.99 ; loss or diminution of sexual instinct, 6 ; pains in thighs, 4.89 ; ocular paralyses (strabismus, diplopia, &c.), 3.21 ; nystagmus, 2.44 ; anthroopathies, 2.09 ; constriction around legs or thighs, 1.74 ; tremors, 1.74 ; perforating ulcers of foot, 1.39 ; muscular atrophy, 1.39 ; anosmia, 1.04 ; deafness, 0.69 ; vertigo, 0.34 ; loss of taste, 0.34. The symptoms of tabes are practically never all present in one patient. They occur in such a great variety of combinations, that it is only by studying a large number of cases that we can arrive at any true conclusion concerning the frequency, duration, and importance of the different symptoms. (From Dr. A. B. Bonar's paper in the *Journal of Nervous and Mental Disease*, May, 1901.)

### TREMOR, FORMS OF.

(From Dr. Williamson's paper.) The diagnosis of the nature of the tremor is important, in some cases as regards the treatment, and in others as regards the prognosis. If on careful examination the tremor is evidently due to alcoholism, mercury, or lead poisoning, or if it is hysterical in nature, then suitable treatment may be followed by recovery. As regards prognosis, it is most important to determine whether the tremor is due to the two most important causes—paralysis agitans or disseminated sclerosis. In the diagnosis of these two diseases the detection of the other symptoms, besides tremor, is of the greatest importance. If these be absent, then the general history of the case and the character of the tremor may be diagnostic. A tremor which commences in one hand between the ages of 40 and 60, which produces the pill-rolling movements of the fingers, or marked extension and flexion movements at the wrist, which continues during repose of the limb, and which is arrested during careful voluntary movements, is almost certainly due to paralysis agitans. The ability to draw a straight line (on paper) which shows no wavy irregularities, and the very slight affection of the handwriting, even when the tremor is well marked, are two points in favour of this diagnosis. A marked tremor, which has commenced gradually between the ages of 15 and 40, which occurs only on voluntary movement, and ceases entirely on repose of the limb, is most frequently due to disseminated sclerosis ; but if other indications of the disease are absent, all the cause of tremor already enumerated should be considered before giving a diagnosis, since some other forms of tremor have these characters, especially at the onset. Occasionally the tremor in paralysis agitans and disseminated sclerosis does not correspond to the common form ; in such cases diagnosis is difficult, and must be based on appearance of other symptoms of these diseases. (*Medical Chronicle*, Oct., 1900.)



## Affections of the Circulatory System.

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### AORTIC DISEASE, PROGNOSIS IN.

The prognosis of aortic regurgitation depends upon the age of the patient, both as to actual number of years of life and how fast he has lived, the degree of dilatation and feebleness of the heart, the mode of living, and the degree of the lesion as well as its kind. If the patient is old or prematurely aged, the ability of the heart to work under difficulties is of course impaired ; if the dilatation is excessive and hypertrophy is scanty, the heart will probably fail rapidly ; if the patient has to lead a life of active exercise which will be a cause of cardiac strain and consequent breakdown, and last, but not least, if the murmur arise as the result of a tear in an aortic cusp after severe strain, the outlook will probably be better than if the valves are prevented from closing the aortic orifice by atheroma, which probably affects all the valves instead of one, and which is not only a degenerative and advancing process but one which in its existence indicates decay and senility. Where the aortic lesion has been produced by rheumatism the prognosis is also bad, since the condition is apt to be one of advancing deformity. Clifford Allbutt has well said in regard to the duration of life in aortic regurgitation that in patients under thirty-five years the prospect of life is about ten years ; in persons over fifty, and in whom atheroma is present, it is about three or four years. Aortic regurgitation is the lesion producing sudden death, and a prognosis should always be guarded. (From Dr. Hare's paper in the *Therapeutic Gazette*, December 15, 1900.)

### CAFFEINE.

Dr. Zenetz (*Bull. Gén. de Thér.*, August 23, 1900) has made a series of observations which tend to show that caffeine has a cumulative property, and that therefore it is but slowly eliminated by the urine. It may thus accumulate to a dangerous extent within the body, contrary to what is maintained by most therapeutists. This being so, the author is of opinion that caffeine is contraindicated in renal disease of all descriptions. It is also contraindicated in arterial sclerosis and associated heart lesions, as well as in angina pectoris. Thus the author arrives at the conclusion that caffeine ought to be submitted to a new series of observations in the laboratory, and until this is done its employment in medicine should be suspended. He extends his prohibition also to theobromine and its salts. There can be no doubt, in view of the valuable researches undertaken



by the author, that when caffeine is ordered care should be taken to allow sufficient intervals between the doses, and to see that the latter are not too large. But the facts adduced would seem rather to prove that if these precautions are taken, the drug may be a valuable one. For surely the power of contracting the ventricles is just that which is required in cases of failing heart, and the point to be attended to is that the dose is so modified as to ensure a sufficiency of this contraction, while avoiding the production of that amount which is likely to be attended with disastrous results. The drug must be used, not abused. (From abstract in *Treatment*, January, 1901.)

### DEGENERATIONS, CARDIO-VASCULAR.

When true failure occurs, manifested by the familiar phenomena of residual dilatation of the heart, mechanical congestion and dropsy, a different set of measures is demanded. Now is the time to attend with expedition, energy, and completeness to the fulfilment of the three great therapeutical indications for the treatment of cardiac failure : to reduce the peripheral resistance ; to increase the vigour of ventricular contraction, and rehabilitate hypertrophy ; and to remove arrears of work in the form of residual blood in the cardiac chambers, mechanical congestion of the veins and viscera and dropsy of the integuments and serous sacs. Bodily rest, a light solid diet, and a definite allowance of alcohol if required ; active purgation with mercurials, salines, and jalap ; and the exhibition of sufficiently large doses of digitalis or one of its congeners, in combination with saline and other diuretics—these are the means calculated to attain the desired objects. We must not be afraid to purge these patients, if necessary every morning. When the appetite flags and flatulence occurs, instead of slops a blue pill or dose of calomel should be given, and light solids persevered with. Then, nocturnal restlessness and sleeplessness are to be met unhesitatingly with permission to spend the night in an easy chair by the bedside. Lastly, according to my experience, acupuncture and drainage succeed perfectly in these senile cases with dropsy, as much as ten pints or more of serum escaping in the course of twenty-four hours, to the complete and often lasting relief of the circulation. (From Dr. Mitchell Bruce's lecture, *Medical Press and Circular*, April 10, 1901.)

### GELATINE INJECTIONS.

The utmost that Dr. J. Mariani (*Il Policlinico*, January, 1901) is able to affirm is that a marked improvement followed the injections, to such an extent, indeed, that he thinks the proceeding quite justifiable in any case of aneurysm. After the

first injection the author has noted more than once that the patient has been made worse ; that is to say, there was increased pulsation, increased pain, and a general deterioration of health. Such symptoms appeared to be transitory, and due to neurasthenia, for on the injection being repeated they all vanished, and gave way to a marked improvement ; the pulsation became much less, the pain diminished, and marasmus disappeared. As regards arrest of hemorrhage, the results obtained were very doubtful. It seems just as likely that the bleeding would have ceased spontaneously had no gelatine injections been made use of, and the author does not find that this mode of treatment offers any marked advantage over that by the usual remedies. There are one or two subsidiary matters of considerable importance which require to be mentioned. The author has arrived at the conclusion that hypodermic injections of gelatine of 2 per cent. strength are at all events perfectly harmless, so that no fears on this head need prevent their employment. In all cases it may be affirmed that 2 per cent. solutions of gelatine, used hypodermically, are absorbed, and that they possess an influence in increasing the power of coagulation of the blood. (From abstract in *Treatment*, March, 1901.)

### HEART, ACUTE DILATATION OF.

Dr. W. B. Lees (*Brit. Med. Journ.*, January 5, 1901) discusses acute dilatation of the heart in diphtheria, influenza, and rheumatic fever. The clinical indications which should be sought for are : Feebleness of the pulse-wave ; feebleness and diffusion of the cardiac impulse ; extension of the cardiac dulness to the left ; feebleness of the first sound at the apex, with accentuation of the pulmonary second sound and a marked accentuation of the aortic second sound. He has found that in children suffering from diphtheria the cardiac dulness is usually increased toward the left. If this extends two finger-breadths to the left of the nipple line, there is urgent peril and the child must not be allowed to sit up in bed under any consideration. A rapid increase in dulness sometimes takes place in a few hours, and is frequently accompanied by vomiting, which is a sign, and an unfavourable one, of acute cardiac dilatation. In time, with extreme care, the heart will usually return to the normal size. In influenza, rapid dilatation of the heart frequently occurs within a day or two after the onset of the disease, and it sometimes causes fatal syncope. Here, as in diphtheria, two finger-breadths of dulness indicate danger. In rheumatic fever, even in slight attacks, acute dilatation of the heart seems to be invariably present, but, although so much more frequent than in diphtheria or influenza, it is not nearly so fatal. When, however, dulness is found in a patient with rheumatism, which



extends beyond two finger-breadths to the left of the nipple, and is accompanied by sudden vomiting, pallor, and coldness, there is great danger of collapse. (From leading article in the *Medical News*, January 26, 1901.)

## HEART DISEASE AND RHEUMATISM.

Dr. D. Rochester calls attention to the following points: (1) Acute rheumatism is an infectious disease. (2) Endocarditis is an integral part of the disease and not a complication. (3) Pericarditis is a complication, just as much as inflammation of any of the other serofibrous membranes, meningitis, pleuritis or peritonitis is, although it occurs more frequently than any of them. (4) Myocarditis is an integral part of the disease, not a complication; occurs much more frequently than is usually supposed; is frequently unrecognised, and is the most serious feature of the disease. (5) The occurrence of endocarditis, pericarditis, or myocarditis, or the previous existence of a valvular disease, whether compensated or uncompensated, is no contraindication to the use of the salicyl compounds, but rather an index to push their administration to overcome the toxæmia of the disease. Whatever one is chosen, it should be given in sufficiently large doses at sufficiently short intervals. (6) Rest in bed for a sufficiently long time is the most important part of the treatment of the cardiac manifestations of the disease. (*Journal American Medical Association*, December 15, 1900.)

## HEART DISEASE IN CHILDREN.

[Dr. F. A. Packard makes the following remarks based on the histories on 75 cases:] Rheumatism had occurred in only 34 of the cases, chorea in 16, scarlet fever in 11, diphtheria in 8, while in 14 of the cases none of these diseases last mentioned had been experienced by the child. If the small control series of cases can be taken as any guide, it would seem that measles, varicella, hooping cough and typhoid fever have little or no influence in the production of endocarditis. We must therefore attribute many of our instances of inflammatory lesions of the endocardium to the slighter infections, such as coryza, various skin lesions, affections of the mucous membranes of the throat and nose, and the infections of the gastro-intestinal tract. The number of cases analysed by me is very small, yet I believe that as far as they go they point to the necessity, which theoretically every one realises, of a careful examination of the heart, both during and after slight infections, and that this organ should be a matter of careful inquiry as much in those last mentioned as is the case with the more severe infections like rheumatism and scarlet fever. (*Journal American Medical Association*, December 22, 1900.)



**HEART, FATTY DEGENERATION OF.**

Dr. Satterthwaite thus concludes his paper: Fatty degeneration of the heart is a common affection, though it is not to be classed as a disease *sui generis*, but rather as a metamorphosis or process attending on loss of compensation to valvular diseases, but also nearly as often on non-valvular diseases. It is caused by fevers, toxæmia, dyscrasias, disorders of nutrition, and mechanical injuries, but it may also be a physiological process, as, for example, in senility or after parturition. For practical purposes, it may be divided into three stages—the first or early, the second or intermediate, and the third or final, and each stage is capable of being distinguished by certain clinical signs. In the early stage the prognosis is best for complete recovery, that is, if the patient does not yield to the primary disease, for in that case he will probably recover with a sound heart, provided, of course, the heart complication is properly treated. In the intermediate stage the prognosis is not good for the arrest of the fatty process *in toto*, but the functions of the heart may be so improved that the patient should be able to resume his former work and enjoy a fair degree of health for an indefinite period. In fact, we may expect a physiological, if not a pathological, cure. In the third or final stage, which is marked by such profound implication of the internal viscera that their functions are in abeyance, the prognosis is always unfavourable. The end will rarely be delayed beyond a few months. (Medical News, February 2, 1901.)

**HEART, RECOVERY OF, FROM FATIGUE.**

When a heart was overworked to such a degree that after the cessation of the work the rapidity of the beat continued, on the work being resumed the heart showed more intense functional exhaustion. The amount of work which a heart did varied in the standing and lying position. In compensation of valvular disease the lying position might call forth a more rapid beat than the upright position, but under normal conditions the reverse was the case. This difference was normally between 10 and 20 beats per minute. The number of beats during the lying position was the normal rate. The condition of the heart must be taken into account in estimating its power towards recovery. On the one hand, one must carefully study the diastolic pause; on the other, the capacity for work of the cardiac muscle and the power of metabolism. After over-exertion the tissue changes were slowly replaced. (From Dr. Mendelssohn's paper, British Medical Journal, May 4, 1901.)

## HEART STRAIN IN GIRLS.

I would call attention to a form of heart strain by no means uncommon among girls and young women. We find it most frequently among young domestic servants who have a large amount of running up and down stairs, and it is generally associated with a certain amount of anæmia, and probably is due to an atonic condition of the heart muscle induced by the impoverished blood. The most prominent symptoms are breathlessness on exertion out of all proportion to the anæmia and excessive frequency and tumultuous action of the heart. In these cases we may give iron in various forms for weeks with very little benefit; it is only when we insist on rest in the horizontal position for at least two or three hours in the day that our patients begin to make real improvement. Often it is necessary to keep them in bed for a time. The rapid growth of girls between the ages of 14 and 18, associated with marked functional changes, renders them, I believe, particularly liable to minor forms of dilatation of the right side of the heart. It is well to remember this, as in recent years hockey, swimming, cycling, and tennis have been taken up with such vigour by them, and are at times overdone, though on the whole the effect on the health is very beneficial. (From Dr. W. Collier's paper in the *British Medical Journal*, February 16, 1901.)

## HEART, WOUNDS OF THE.

Wounds of the heart may be either non-penetrating or penetrating—injuring the cardiac wall or opening a cavity. The chief dangers from the former are shock and injury to a coronary artery. Ninety per cent. are penetrating. The right ventricle is most frequently injured, and the left auricle is least so. Auricular wounds are more fatal than ventricular, and injuries to the apex are less dangerous than either. A needle puncture will rarely cause hemorrhage from a ventricle, but excessive bleeding is liable to follow a like injury to an auricle. A wound inflicted during diastole is less dangerous than a similar injury during systole, perpendicular wounds are more fatal than diagonal, and those of the right heart bleed more profusely than those of the left. The presence of the foreign body in the heart, the size of the wound, the number of the wounds, the connecting of cavities, the attending of syncope, the involvement of Kronecker's co-ordination centre, are important factors in determining the outcome. Pericarditis, myocarditis, endocarditis, and empyema are frequent secondary complications. (From Dr. Hill's paper, *Medical Record*, December 15, 1900.)



**HYDROTHORAX, CARDIAC.**

Dr. Alfred Stengel referred to the cases of unilateral pleural dropsy reported by Steele, which he had observed with the latter, and called attention to the fact that most writers have stated that effusion in heart disease is always bilateral. He had frequently found it unilateral, and when single it was always right sided. He analysed 100 consecutive cases of cardiac disease that had been under his observation, and in which sufficient clinical and pathological information was preserved to make the notes valuable. Of these 17 showed evidences of hydrothorax, of which five were right sided only, three left sided, but in two of these the right pleura was found at autopsy obliterated. Nine had bilateral effusion at some stage ; two of these were first right sided and then double, and in the other seven the right side was more affected than the left. He said it was sometimes difficult to determine whether an effusion was dropsical or inflammatory, but the former could occur unilaterally. (Boston Medical and Surgical Journal, May 30, 1901.)

**MYOCARDITIS, ACUTE.**

Dr. Beverley Robinson (New York) thus speaks of this affection in the acute illnesses :—The first sound may be low, distant, muffled ; the second sound may be somewhat accentuated, and particularly over the pulmonary area, or again, this sound, although still distinct, lacks force and normal intensity. With such a heart we have a rapid, feeble pulse, small in volume, and easily depressible ; it may be unequal, somewhat irregular ; a beat may now and then be lost or inappreciable to our tactile sensations. Instead of a rapid heart we may have a slow one ; but this is rare, almost exceptional in these acute cases. A soft, blowing murmur at the apex and systolic in time is often developed. It may be limited as to its area, or it may be widely heard over the præcordia. While this is true, it is still heard most intensely near the apex-beat or in the pulmonary area. In the latter case a pulsation of the second and third left intercostal spaces may accompany it ; and this pulsation is of itself, as Russell has noted, an evidence of some degree of heart failure. Restlessness, profuse perspiration, especially of the face and upper limbs, accompany this condition. The patient is apathetic, listless, soporous, or frequently there is a low, muttering delirium from which he can be separated for a moment only by acquiring his attention with forcible and loud questioning. With such a cardiac state we may or may not have more or less implication of the bronchial tubes or lung structure ; and dulness of the bases, with fine crepitation during inspiration, and over an area of at least a hand's breadth, is no



uncommon finding. The urine is apt to be somewhat deficient as to quantity, and to contain abundant urates, an occasional cast, hyaline or granular, and a notable amount of albumin. Cases like the foregoing, in diphtheria especially, are apt to terminate fatally, and often suddenly. (American Journal of the Medical Sciences, March, 1901.)

### PARALYSIS, INTERMITTENT VASCULAR.

The subjects of this disorder, who are usually persons past middle life, are seized, after walking a short distance, occupying perhaps five to ten minutes of time, with a helpless, cramp-like feeling in the legs, so severe as to render further progress impossible, though after a few moments' rest they can do their short stint again. It is not the severity of the pain so much as an actual incapacity for motion, an inhibition, accompanied sometimes with abnormal sensations in the feet, that hampers them. So long as the patient is at rest and during the first few moments of exertion, everything seems to be in perfect order, but a careful physical examination almost always reveals, it is said, one or more of several co-ordinated signs, all of which point eventually to the same condition—a limitation of the arterial supply to the muscles. Thus one or more pedal arteries and even the popliteals may be found to be without pulsation, and as a consequence of this the foot may be cool and slightly pale, or red, or blue, according to circumstances. The disorder is chronic, and though of varying intensity does not tend spontaneously towards recovery. Occasionally, however, considerable improvement may be induced by measures tending to promote the circulation and to check the formation of a morbid habit. The chief means hitherto used with success are potassium iodide, moderate warmth, prolonged galvanism with the feet resting in tubs of warm water, cardiac tonics, and studious avoidance of exciting causes. Analogous measures which might be found useful are massage under the surface of warm water, as suggested by Jacobi for arterio-sclerosis in general; local salt and carbonic acid baths, and Baumann's thyreo-iodin, which has recently been found of service in other forms of sclerosis of the arteries and for rheumatic and gouty joints. (From Dr. J. J. Putnam's paper, Boston Medical and Surgical Journal, February 21, 1901.)

### PERICARDITIS, PURULENT, IN BRIGHT'S DISEASE.

Two cases are reported by MM. Oulmont and Ramond in *La Presse Médicale*, No. 93, 1900. The first case was that of a man of 46 years, who developed symptoms of uræmia of respiratory and gastro-intestinal type. The pericardium, which was covered with a thick membranous layer, enclosed

200 grammes of purulent fluid, in which the pneumococcus was found pure in abundance. Disseminated patches of broncho-pneumonia made it probable that the organism had entered by the respiratory passages. The second case was that of a woman, aged 42 years, who died of gastro-intestinal uræmia, associated with hæmatemesis and melæna. The pericardium was covered by thick membranous material, infiltrated with blood, but only containing a small amount of purulent hemorrhagic fluid. This fluid, together with the membranous walls of the pericardium, contained a bacillus giving all the characters of the bacillus coli. Pericarditis is certainly not uncommon in Bright's disease, for in 100 cases Kéraval observed it eight times, Roberts 13 times, and Bamberger 14 times. Sometimes the contents of the pericardium are aseptic, as in cases reported by Merklen, Dessy, Chatin, and others. Sometimes organisms are found, as in the case of Menétrier and De Bosc, where pneumococci were present. (From Dr. Bunch's abstract in *Treatment*, February, 1901.)

#### TAPPING IN HEART DISEASE.

Dr. Joseph O'Carroll exhibited, before the Royal Academy of Medicine in Ireland, a man aged 65 years, admitted May 25, 1900, for dyspnœa, epigastric pain, thirst, frequent micturition, and want of sleep, due to dyspnœa. The shortness of breath dates back eighteen months, but became very acute in March, 1900, when his legs became swollen. There is a soft systolic murmur at the cardiac apex; the urine shows a faint trace of albumen and some sugar. He goes to bed for about three hours in the evening, but cannot lie down; he gets up about midnight, dresses, and, wrapping himself round with his blankets, spends the rest of the night dozing in his chair. A month after admission, this state of things continuing, the right pleura had to be tapped; in a few days the left, and so turn about. His thorax has been tapped eighteen times, and a total of 67 pints of serous fluid has been withdrawn. He has not been tapped since October 30. He has now no dyspnœa, sleeps well on either side, and can take a little exercise in the hospital garden. In fact, he seems—but for the murmur—in good health. The sugar in the urine has never reached a high quantity, the highest being 5 per cent., and it has frequently disappeared altogether. The quantity to-day is about 5 per cent. The quantity of urine has averaged about 30 ounces, so that the case is hardly one of diabetes mellitus. Dr. O'Carroll thought the best diagnosis to be mitral disease with subacute dilatation of the heart, which has been cured or relieved by rest. (*Dublin Journal of Medical Science*, March, 1901.)



**TRICUSPID VALVE, PNEUMOCOCCUS  
ENDOCARDITIS OF THE.**

Dr. Wood presented specimens from a case. They had been taken from a woman of about 30 years, who had entered the hospital with a serous lobar pneumonia on one side. Death had occurred in two or three days. Unfortunately no blood cultures had been made during life. At the autopsy both the tricuspid and mitral valves had been found covered with small vegetations. They did not look like ordinary vegetations of malignant endocarditis, and the process did not seem to have invaded the valve substance deeply. Cultures showed the presence of pneumococci. The vessels in both lungs contained ante-mortem thrombi, but no infarction of the lung was present. The liver showed extreme fatty degeneration. The kidneys showed a moderate glomerular nephritis of a rather acute type. The appearance of the vegetations was said to be quite characteristic of pneumococcus infection. The cases of endocarditis due to pneumococcus infection constituted twenty per cent. of all cases of malignant endocarditis. (Medical Record, May 25, 1901.)

**VASO-MOTOR DISTURBANCES.**

(From a preliminary communication by Dr. A. Mantle.) After recalling the ordinary symptoms observable in the extremities in Raynaud's disease, Dr. Mantle dwelt upon the changes occurring in the brain which he believed to be of vaso-motor origin. Migraine was a common symptom in a large proportion of the cases. In a considerable number epileptic attacks occurred—a single attack or more at varying intervals. In the insane as well as in the epileptic vaso-motor disturbances of the circulation were observed. Palpitation was a very common symptom, and angina vaso-motora was cited as seen occasionally. Arterial tension in the majority of cases was minus, and a varying degree of dilatation of the heart was noticeable. Dr. Mantle had only seen one case of hæmoglobinuria, and this was in a patient with high arterial tension who was a great meat-eater. Gastric cases were referred to in which food excited a feeling of pain and coldness of the extremities and body. Pains of a colicky character of varying duration occurring in the abdomen were also referred to. There was always a sad and anxious expression of countenance in all of these cases of vaso-motor disturbances. In some, particularly in the female sex, he had observed an enlargement of the thyroid gland, accompanied or not with proptosis, generally bilateral but sometimes unilateral. In others proptosis existed alone. These cases were quite distinct from Graves's



disease, and had no tachycardia, and as far as he knew were undescribed. The symptoms were suggestive of a thyroid origin. The skin was sometimes bronzed or the condition of scleroderma was noticeable. Ophthalmoscopically in the cold stage he had observed contraction of the retinal arteries with dilatation of the veins. (Lancet, March 9, 1901.)

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## Affections of the Respiratory System.

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### EMPHYEMA, TREATMENT OF.

H. P. Ritchie (*St. Paul Med. Journ.*, vol. iii., No. 1, 1900) deterred from resecting a rib by the depressing effect of an operation in tubercular pleurisies in young and weak children, tried Lerascheff's method of replacing a purulent exudate with a neutral fluid. The child was in such condition that an operation was unjustifiable. He aspirated four times the first day, and each time injected normal salt solution, warmed. The last time only a turbid fluid returned. Under medical treatment of guaiacol and cod-liver oil, and without further surgical procedure, the child rapidly recovered. (Therapeutic Gazette, April 15, 1901.)

### HÆMOPTYSIS, SUPRARENAL IN.

The necessity for a prompt and reliable remedy, free from toxic or unpleasant after-effects, to control hæmoptysis, has led W. B. Kenworthy (*Med. Rec.*, March 16, 1901) to try suprarenal extract. In fourteen cases the hemorrhage stopped quickly, and in only one case did it continue beyond fifteen minutes after the first dose. There was also decided strengthening and slowing of the pulse, lessening of cough and expectoration, and marked improvement in respiration. The writer gives powders of gm. 0.2 (gr. iij.) every half-hour until three are taken; then every two hours until three more are taken; then three times a day for a week. He orders them taken dry on the tongue, chewed, and swallowed without water. (Medical News, March 30, 1901.)

### LUNG, ABSCESS OF.

Dr. G. E. Armstrong had only had to do with cases of abscess in the upper lobe, and the difficulty had been to get the sinus to close. An essential feature to the success of the operation was adhesion between the two pleural surfaces, so that one could get

access to the abscess cavity without collapse to the lung or infection of the pleural sac. Another essential feature was the relation of the opening of the bronchus into the cavity. In the two cases he had operated on, he could distinctly feel that the opening of the bronchus was into the top of the cavity. This probably explained the coughing and free purulent expectoration, which took place on change of attitude, the pus collecting in the cavity poured out when the opening became dependent. A third important point was to get drainage from the bottom of the cavity. In two cases in which the opening had been made into the middle of the cavity, the sinus and coughing up of pus had persisted in spite of the gain in weight and strength. These patients had been advised to leave hospital for a while and then return, in order that an attempt might be made to make a fresh opening at the bottom of the cavity. (Montreal Medical Journal, March, 1901.)

#### PHTHISIS AND GASTRIC SYMPTOMS.

(From Drs. Martin and Tooke's paper on Tuberculosis.) By far the larger number of what might be called masked pulmonary tuberculoses came for treatment of the alimentary canal and liver. Pains in the stomach and diarrhœa were most common. Anorexia, if persistent, should always make a chest examination imperative, this digestive symptom being among the commonest of the earliest signs. The presence of chronic diarrhœa likewise implies the great possibility of pulmonary disease and a secondary focus in the bowels. In five of our patients within the past two years the diarrhœa had quite masked any other complaints. Cough was either quite absent or so insignificant as to attract the attention of neither patient nor physician. Nor was the diarrhœa associated with fistula in ano in more than one of these instances, though fistula is so common in victims of pulmonary tuberculosis that its mere presence should suggest the advisability of a pulmonary examination. Pain after eating has been rather uncommon, except when associated with other gastric disturbances. Vomiting occurred in a number of cases; in four it was the first symptom complained of, had been present for some time before cough was prominent, and was fairly frequent and usually accompanied by anorexia and weakness. One instance was of peculiar interest, inasmuch as with the gastric complaints there had been no other sign except weakness. There had been no actual cough, though with an irritation of the pharynx a slight hacking occurred, and bacilli were found in the small amount of mucus thus produced. During the few days of the patient's sojourn in the hospital there was no fever, and yet examination revealed advanced involvement of one lung. (Montreal Medical Journal, February, 1901.)



**PHTHISIS, COUGH IN.**

(From Dr. Arthur Latham's paper.) We must not forget that this incessant hacking cough—whatever its origin—is not infrequently kept up by the irritability of the nervo-muscular mechanism of respiration. In such cases, food, stimulants, and nervous sedatives are our best remedies. In cases where the cough is stomachic in origin, we may have to prescribe such gastric sedatives as hydrocyanic acid, or bismuth salts combined with vegetable bitters. In some cases a counter-irritant over the epigastrium is useful, in others a gargle of fresh effervescing soda-water gives relief. When the cough is due to some associated catarrh of the larger bronchial vessels, it is best to promote expectoration for a few days by prescribing some alkaline mixture containing sodium bicarbonate, to which we may add small doses of ammonium carbonate or potassium iodide. If the mucus is peculiarly tenacious, no drug succeeds so well as ammonium chloride in 10 to 15 gr. doses three times a day—the taste of this medicine being disguised by liquid extract of liquorice, &c. In the later stages of consumption, when excavation is present, it must be our aim to get rid of the matter which accumulates in the cavities and larger tubes. There is no remedy which does this so effectually, and with such benefit to the patient, as creasote in the form of vapour. Small doses of creasote and its derivatives are useful in checking expectoration when this is very profuse. Turpentine may also be given for this purpose. In the final stages of pulmonary tuberculosis we unfortunately have to rely very largely upon opium in some form or another for the relief of the cough and other distressing symptoms. To sum up, then, I would say that the treatment of the cough which occurs in consumptive patients must be based upon the following principles:—(1) Determine the direct cause of the cough. (2) Place the patient as far as possible under ideal conditions, for building up the tissue resistance and avoiding all causes of pulmonary irritation. (3) Never give drugs until all other measures have failed, and then never without considering the question whether in treating the symptom we are not aggravating the disease. (Edinburgh Medical Journal, June, 1901.)

**PHTHISIS, SANATORIUM TREATMENT OF.**

The treatment consists in : (1) Constant supervision ; (2) fresh air ; (3) rest ; (4) exercise ; (5) food (in abundance). Food is no good without fresh air ; exercise is dangerous without medical supervision. It is the combination of all these points that leads to success ; one merges imperceptibly into the other ; take one way and the whole treatment is spoilt. It is obvious



that the treatment can only be thoroughly carried out in a sanatorium ; to attempt to carry it out at home without being educated in a sanatorium is to bring discredit on a good system. Secondly, to deal with the uses of a sanatorium. The greatest use, in our opinion, is, that it is a school for discipline and education. For discipline, because patients have to keep regular hours, and to fall in with the rules of an institution ; and as the majority of the patients are young, this discipline is doubly urgent. For education, because they have to learn : (1) That the disease is infectious, that they must not spit here, there, and everywhere, but in the proper pocket-flasks, and that sputum must not be swallowed ; and thus dissemination of disease is prevented and auto-infection reduced to a minimum ; (2) that all winds must be avoided, and consequently that walks must be chosen according to the wind ; (3) that no exercise must be taken while the temperature is raised ; (4) that all violent exercise must be given up, such as dumb-bells and rowing ; (5) that there must be rest before meals ; (6) that the whole twenty-four hours must be spent in the open air. The educational side is most important, as few patients can afford to stay in a sanatorium until they are well, nor indeed is this necessary. Educate patients to an open-air life and then they can carry it out in the country, but do not try to carry out treatment in a country house until your patients have been educated in a sanatorium. Three months in a sanatorium will send patients home with air-hunger ; they will be unable to live without open windows ; they will have no fear of night air, and a rainy day will not keep them indoors ; they will no longer be a source of infection to their friends, and they will know how to carry on treatment. (From Dr. Braine-Hartnell's paper, Bristol Medico-Chirurgical Journal, March, 1901.)

## PHTHISIS, TREATMENT OF.

[The following is taken from a leading article based on Burghart's paper (*Berl. klin. Woch.*, 1900, Nos. 27 and 28):] When fever is present in a case in which noteworthy improvement is likely to take place, the patient should, if possible, be kept in bed until the febrile manifestations have remained in abeyance for several days. Should febrile elevation of temperature take place on arising or on walking about, the activity should be restricted or even be interdicted for a few days. In hopeless cases the treatment should be less rigorous, and everything should be done that will mitigate the severity of the symptoms and sustain the courage of the patient. Accordingly, he may be permitted to get out of bed, as cough, pain, sweats, and the sense of weakness and malaise are often

thereby lessened. Should simple rest in bed not suffice for the control of the fever, sponging with cool water in the evening or even also during the day may be practised. Antipyretics should be avoided if possible, but in severe cases pyramidon, quinine, or phenacetin may be employed in hourly doses of gr. iss. until five doses are taken. Slight and occasional sweating will require no treatment, especially if it occur only during the day. The profuse colliquative sweats, especially at night, however, demand therapeutic intervention. Internal remedies are employed only if unavoidably necessary, and of these camphoric acid is to be preferred. Cool sponging in the evening with simple or with aromatic vinegar or with water diluted with citric acid or with alcoholic solutions, often yields satisfactory results. A solution of menthol and alcohol (one or two per cent.) has recently been recommended for this purpose. A small amount of alcohol given at night will frequently control sweating. Sage-tea, taken cold, sometimes has a similar effect. Formalin-alcohol (ten per cent.), with the addition of three or four per cent. of oil of peppermint, may also be employed, being applied to small areas of the trunk at a time. (Medical Record, January 26, 1901.)

#### **PHTHISIS: VENOUS INJECTION OF FORMALDEHYDE.**

[Dr. Maguire recommends the following, but he repeats on several occasions that the injections should be made with the greatest care :] The needle should be of as large a calibre as can possibly be introduced. In order to use as much injection fluid as possible, I had it made with normal salt solution, and this, containing 1 in 2,000 of pure formic aldehyde gas, and prepared by Messrs. Squire and Sons with all antiseptic precautions, we have styled for convenience "hæmasepsin." Of this I have injected 50 c.cm. daily, and with practice this can be done with safety and certainty. But let no one lightly undertake these injections. They seem to be very easy, but they are, in fact, remarkably difficult to do. The vein is prone to roll by the side of the needle. The needle very often pierces the opposite wall of the vein, and so a troublesome hæmatoma is produced, and also much pain. The arm should be ligatured as for venesection, the skin anointed with 1 in 12 carbolic and vaseline, after having first been cleansed with 1 in 20 solution of carbolic acid. The needle should then be plunged boldly into the vein, the ligature loosened, and the tap of the burette turned. If the injection is not entering the vein, a painful swelling will at once be observed, and the needle ought at once to be withdrawn. If the injection succeeds, the needle can be quickly withdrawn, and a little pressure suffices to stop all further hemorrhage. I advise that not more than 50 c.cm. of a



1 in 2,000 solution should be injected daily. Larger quantities and greater strength caused, in myself, first albuminuria, next copious hæmaturia, and lastly thrombosis of a vein in the arm. Cough is generally increased by the injection, and the expectoration becomes thereby more frothy and mucous. The cases selected for treatment were all such as showed pronounced lesions. Some were treated at the Brompton Hospital, others at St. Mary's Hospital, some as out-patients under Dr. Reid, of Lambeth, and others, again, in the country, at the Hendon infirmary under Dr. Findlater. In all, results of about 70 cases are now available. Nearly all showed some improvement, and some have demonstrated absolute disappearance of tubercle bacilli from the sputum. One case exhibited had a marked "multiple pleuritic" outbreak of pulmonary tuberculosis, and I have previously shown that the prognosis of this condition is most grave. Yet he has now no tubercle bacilli in the sputum, he expresses himself as being quite well, and if you examine his chest you will find nothing more than here and there the indications of pleural adhesions. I have treated a few cases of putrid bronchiectasis by this method, and with excellent results. I should expect the treatment to be of use in acute pneumonia. (British Medical Journal, December 15, 1900.)

#### PLEURAL EFFUSIONS SIMULATING PNEUMONIA.

(By Herman B. Allyn, *Phila. Med. Journ.*, Sept. 29, 1900.) Allyn calls attention to a class of cases of pleurisy in which the physical signs simulate those of pneumonia, vocal resonance and fremitus being increased and marked bronchial breathing being present. If the fact be carefully borne in mind that blowing breathing and bronchophony may occur in pleurisy, we believe that thorough examination and a careful consideration of all the facts of the case will usually lead to a correct diagnosis, although it may be impossible at a first examination to arrive at a definite conclusion without aspiration. Cases are quoted from Austin Flint and Bowditch supporting the resemblance of the physical signs in consolidation and pleurisy in certain instances, and an original case is reported. There is no pathognomic sign of pleural exudation. The only safe way is to examine all the signs and not to expect any one to have a too definite value. Flatness on percussion and greatly increased resistance indicate fluid rather than consolidation, and the value of these signs is greatly increased if the upper limit of dulness follows the lines of Garland and Ellis. A change in the level of dulness with alteration of the patient's posture, Skodiac resonance anteriorly, displacement of organs and restricted or absent movements of the diaphragm on the affected side also suggest fluid. The most important sign is puncture of the thorax, and the writer rightly emphasizes the



use of a large aspirating needle, the hypodermic needle being too small to allow pus to pass. (From abstract in Montreal Medical Journal, December, 1900.)

### PNEUMONIA, ACUTE.

(From Prof. J. M. Allen's paper.) To summarise the therapy of pneumonia : I administer a calomel and rhubarb purge at the beginning ; afterward the alimentary canal is to be kept open with castor-oil and turpentine. Three hours after the purgative I begin with the sodium salicylate, 10 to 15 grains, given in 4 drams of Phillip's milk of magnesia. During the exacerbation of fever I give three doses of 5 to 7 grains of pulvis Dover. The digitalis, strophanthus, and strychnine are given in the middle of the second stage in small doses, increasing as the heart may demand. About the fourth to sixth day I cease giving the sodium salicylate and substitute for it tincture of ferrum chlorid, potassium iodid, quinine, nitro-glycerine ; as a matter of course, the heart tonics and stimulants must be continued in full force. During the last two years I have been using with great benefit oxygen inhalations. The patient's diet should not be restricted, unless he be jaundiced by acute duodenitis, which is often associated with croupous pneumonia ; then the diet should be restricted to milk and eggs. (Journal American Medical Association, March 2, 1901.)

### PNEUMONIA, POST OPERATIVE.

Kelling, quoted in *Schmidt's Jahrbücher*, 1901, Heft 1, notes that post operative pneumonia is most likely to follow operations on the stomach. The first symptoms develop in from nineteen to twenty-four hours after operation. He believes the cause can be traced to infection occurring during the course of the operation. This infection comes probably from the air which is often sucked in and blown out of the belly cavity with each respiratory movement, necessarily carrying with it directly into the peritoneum an enormous number of germs. Also, as an etiological factor, the cooling effect of this air upon the diaphragm must be considered. Kelling takes every precaution against moving currents of air during an operation. He keeps the operating-room hot, the floor is made moist, and by means of gauze he prevents aspiration of air into the subdiaphragmatic space. He has thus greatly diminished the number of post-operative pneumonias in his service. (From abstract in Therapeutic Gazette, April 15, 1901.)

### PNEUMONIA, SALINE INJECTIONS IN.

Henry (*Internat. Clinics*, London, Ser. 9, vol. iv.) recommends the injection of saline fluid in cases of severe pneumonia in

alcoholic subjects. He uses a solution containing about 50 grs. of chloride of sodium to the pint of water. The object of the treatment is to make up for the apparent deficiency of fluid in the body, as shown by the dry tongue, &c. By diluting the blood, he hopes to prevent ante-mortem coagulation. In a severe case in a woman, aged 63 years, five injections of a pint each were administered during five days. The patient was so stuporose that the first prick of the needle was not felt. The result of the injection was to modify the course of the disease. There was no crisis, but termination by lysis, convalescence commencing on the seventh day. Henry notes that, as a rule, where hypodermolysis is employed, defervescence is by lysis. In only one out of ten cases did the disease terminate by crisis. Out of twelve cases, two died, the other ten recovered. Of the ten successful cases, one was a man of 77 years, with a pronounced valvular lesion, two were cases of double pneumonia, and another was an infirm woman of 63 years. All the patients were more or less addicted to alcohol. Though all the cases received the ordinary treatment of ice-bags and stimulants, Henry is convinced that the most efficacious of the measures employed was the hypodermolysis. (Edinburgh Medical Journal, April, 1901.)

#### **PNEUMONIA TREATED BY ICE PACK.**

[Dr. Collins has treated nine cases in this way. The following are his conclusions :—] In only one case did the ice pack cause discomfort. In no case was the crisis accompanied by dangerous collapse. The pack has been used to abort cases just beginning, in cases with well-marked signs, and in cases showing resolution. Contemporary signs of bronchitis were not considered contra-indicatory. High temperature (and not physical signs) has been in each case the indication for application of ice. Lowered temperature and not physical signs has been in each case the indication for removal of ice. The average fall in temperature was 4.5 deg. In all but one case this fall was within forty-eight hours of application of ice. In most cases it was within twenty-four hours. The slowest fall of temperature following ice pack was in a case where temperature took five days to fall 7 deg. This patient was suffering from a septic hand. The average fall of temperature was 4.5 deg., and took place on the fourth day. The white count invariably began to fall with the temperature, but reached normal in no less than one week after temperature was normal. The ice pack apparently had no particular effect in either shortening or prolonging the duration of physical signs. The physical signs cleared up on the fourteenth day. (Boston Medical and Surgical Journal, March 28, 1901.)



**SYPHILIS, DIAGNOSIS OF LARYNGEAL.**

With a history of syphilis and scar-tissue in the pharynx or on the epiglottis, with the peculiar sharp-cut serpiginous ulceration characteristic of syphilis of the mucous membranes, the diagnosis is easily made, but local appearances in syphilitic disease, while frequently different from other forms of ulceration—and we thus speak of characteristic conditions—may so exactly resemble those of a tuberculous nature that they are indistinguishable from it. The promptness and suddenness with which laryngeal stenosis may supervene in syphilis is a differential diagnostic point which is frequently neglected. Tuberculous laryngitis is usually not accompanied by dangerous dyspnœa. Syphilitic laryngitis usually is. Fortunately there is usually no difficulty in clearing up the diagnosis, if the observer is on his guard. “Always think of syphilis and keep on thinking of it,” irrespective of long personal acquaintance with the patient and his family. All the patients whom I have seen die from this mistake on the part of their medical attendant, and one who was saved by previous experiences, were innocent women, who so far as could be learned from the history, had apparently unknowingly acquired the disease. (From Dr. J. Wright’s paper, *Medical News*, January 19, 1901.)

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**Affections of the Digestive System.****APPENDICITIS, TREATMENT OF.**

(From Mr. Walsham’s paper.) The propositions I would submit are as follows: (1) In all cases of ordinary so-called catarrhal appendicitis, that is, the ordinary form of appendicitis formerly known as peri-typhlitis, typhlitis, &c., it is better to allow the acute stage to subside, provided the symptoms are running a favourable course under medical treatment, and then, whether it be a first or a subsequent attack, to remove the appendix. (2) In the acute gangrenous and perforating varieties no time should be lost in medical treatment, but the abdomen should be opened immediately, the appendix removed, and disinfection employed before the whole peritoneal cavity has become implicated, whilst, should the general peritoneum have already become extensively infected, nothing but the most drastic methods hold out any great prospect of success. (3) That, should a localised abscess have formed in the region



of the appendix, an early incision should be made, and the greatest care exercised lest, in opening the abscess, the general peritoneum be infected by the breaking-down of the delicate adhesions shutting off the pus from that cavity. (4) That the removal of the appendix during a quiet interval is a perfectly safe operation, and frees the patient from all subsequent risk. (Medical Press and Circular, March 13, 1901.)

### ASCITES, TREATMENT OF.

Mr. Leonard Bidwell read, before the Clinical Society of London, a paper on "Some Cases illustrating the Value of Laparotomy in Ascites." He referred to three cases, in the first one of which the ascites had been due to cirrhosis of the liver; the liver and the omentum were stitched to the abdominal parietes after evacuating the fluid. The patient recovered, and had no return of ascites; she remained well for nearly six months, when she died suddenly from hæmatemesis brought on by alcoholic excess. In the second case, that of a child aged nine years, the ascites had been preceded, and it was accompanied, by albuminuria and abdominal pain. There was also general anasarca. The lad had been tapped ten times, and the fluid reappeared very rapidly. He was now quite well but for a trace of albumin, and had had no further ascites. In the third case, that also of a child aged nine years, the ascites was due to cardiac disease, and there was also general anasarca, the liver being greatly enlarged. In this case, too, there was no fresh development of ascites, and the child was able to get about, but died from syncope shortly after returning home. The technique of the operation was described, and Mr. Bidwell expressed himself as rather opposed to the employment of drainage in the operation, since this made it very difficult to prevent septic peritonitis, a complication which in a patient with cirrhosis was almost certainly fatal. Several cases had been lost in this way, and he himself lost his first case about four years ago in a similar way. He referred to a series of cases of operation recently collected by Pachard and Lelanto. They had tabulated 22 cases, of which five died within 14 days and nine were cured; adding two more recent cases and his own five cases, the total of 29 recorded cases was attained; of these, eight died within 14 days of the operation, five other cases died within nine months, five did not improve, two improved, and ten were cured. He thought that some selection should be made of the cases, the most suitable being those in which the liver was still enlarged. A small contracted liver was, in his opinion, a contra-indication to operation. He did not think that renal or cardiac disease was any contra-indication to operation. (Lancet, May 18, 1901.)

**CARCINOMA OF THE STOMACH, A NEW SIGN OF.**

From the point of view of early diagnosis we would draw attention to a communication by Dr. H. Ehret, of Strassburg, in *La Semaine Médicale* (March 6, 1901) upon the value of the presence of the bacillus filiformis in the stomach contents. This organism was first described by Boas ; it is a very long, slender, threadlike bacillus, forming masses large enough to fill the greater part of the field of the microscope. It grows well in agar-agar containing 1 per cent. of glucose, and forms colonies visible on the second day which do not exceed a pin's head in size ; with a lens they look like little tufts of cotton. It forms, after three days, a thick, woolly precipitate in acidulated bouillon, but does not grow upon gelatine. These cultural characters are not, however, of clinical importance. The bacillus can be early recognised by the microscope, and it is only when present abundantly that it has, according to Dr. Ehret, any special significance, and this is more particularly the case when there is no great stagnation of the stomach contents. In his opinion, if masses of this bacillus are found in the contents of the fasting stomach where those contents are only moderate in quantity, that is to say, not more than 100 c.cm., the diagnosis of cancer may be affirmed. (British Medical Journal, March 16, 1901.)

**CHOLECYSTITIS IN TYPHOID FEVER.**

Dr. R. W. Marsden relates a case of perforation of the gall bladder. Since recovery is not infrequent in catarrhal cholecystitis : whereas in ulcerative or suppurative cholecystitis active surgical interference is generally sooner or later required, it is advisable to attempt a differential diagnosis. Da Costa says, that "where there are abscesses in other parts of body, and one can exclude pylephlebitis, and hepatic abscess, suppurative cholecystitis may be inferred if pain and tumour be present." Also "if there be a history of biliary colic and gall-stone, or if this arise in the progress of typhoid fever, or not long subsequent to it, signs of cholecystitis mean suppurative cholecystitis," whilst the presence of a leucocytosis may render some assistance. Keen, however, divides the cases from a surgical point of view into two classes (1) perforative, and (2) non-perforative. An examination of the cases of perforation hitherto recorded shows the necessity for prompt diagnosis, and immediate surgical interference. There can be no doubt that in both suppurative cholecystitis and perforation an early diagnosis with resort to operation will materially alter the future statistics of these dangerous complications, but in the case of perforation the necessity for immediate action is inestimably more urgent. The onset of perforation is usually denoted by sudden pain in



the abdomen, with symptoms of peritonitis followed by collapse, the course being much the same as in perforative peritonitis from other causes, even to the rare accident of encapsulation. The onset of the pain in the right hypochondrium, or the fact of its being most severe in this region, also the occurrence at the time, or previously, of symptoms pointing to an affection of the liver, such as "biliary colic," or jaundice, these will serve as localising factors, though it has to be borne in mind that localising signs may be completely absent. One other point is mentioned by da Costa, viz., that, compared with other causes of perforative peritonitis, the after-course is not unusually comparatively slow, and in connection with this it is interesting to note that Maurice Richardson thinks the influences from typhoid bacilli and the pneumococcus are possibly less fulminating than those from the colon bacillus. (Medical Chronicle, January, 1901.)

### GASTRIC ULCER, PAIN IN.

In the opinion of Sir Lauder Brunton, in a large number of the cases of gastric ulcer the pain can be stopped almost to a certainty by the administration of bi-carbonate of soda, with this proviso, that the drug must be given in large quantities. His plan is to dissolve a teaspoonful of bi-carbonate of soda, the patient to sip the solution teaspoonful by teaspoonful until the pain is gone. Most people would naturally think of dissolving the bi-carbonate in water, but the proper way, it seems, is to dissolve it in lime water, adding a little spirit of peppermint. To lessen the constipation caused by the lime, fluid magnesia may be given along with the bi-carbonate of soda. The experience of Sir Lauder Brunton with cases of gastric or duodenal ulcer has been to show that the pain is relieved by neutralising the acid of the stomach and duodenum, and this effect has been noted in patients where fairly large doses of morphia have not availed to alleviate the suffering. An alternative formula to the above is : spt. menth. pip.  $\bar{z}$ iss : cretæ præparat  $\bar{z}$ ss ; magnes. carb. lev.  $\bar{z}$ j, and sodii bicarb.  $\bar{z}$ j. A teaspoonful of this preparation should be stirred up in half a tumbler of water or more and slowly sipped, a teaspoonful at a time, until the pain is relieved. (From a leaderette in the Medical Press and Circular, May 1, 1901.)

### GASTROPTOSIS.

The following are Dr. Roe Lockwood's conclusions :—(1) That in the great majority of cases an adequate cause for the gastroptosis is not discoverable. (2) That gastroptosis does not of itself, in an uncomplicated form, produce symptoms. (3) That



the displacement of the stomach, however, is a predisposing cause of a variety of gastric neuroses, of sensation, motion, and secretion. (4) That these neuroses are usually induced by some definite mental or physical strain. (5) That the displacement of the stomach is a strong exciting cause for muscular atony; that atony is the most common cause for the symptoms presented. (6) That a complicating atony is associated with a more or less profound neurasthenia, and that a direct relation exists between these two conditions. (7) That gastric acidity is increased in direct proportion to the atony, unless counteracted by gastritis. (8) That mild degrees of gastritis are apt to occur in stomachs that are displaced, but the symptoms are neither severe nor persistent. (9) That gastritis occurring in atonic and displaced stomachs reduces the excessive acidity of these cases, and seems to modify the severity of symptoms. (10) That atonic dilatation without mechanical hindrance is exceedingly rare. (11) That dilatation, or better, muscular insufficiency, may occur in gastropsis from duodenal kinking, from arterio-mesenteric constriction, or from pyloric spasm. (12) That pyloric spasm is common in displaced atonic stomachs with hyperacidity, and may lead to a temporary dilatation. (13) That in a large number of cases, inattention to the conditions of atony, of neuroses, and of gastric secretions has led to an unsuitable, insufficient diet, which reacts both on general nutrition and on local conditions within the stomach. (14) That surgical intervention is applicable only to the cases in which dilatation exists. (Medical Record, December 1, 1900.)

### HÆMATEMESIS IN APPENDICITIS.

(M. Dieulafoy, *Gaz. des Hôpitaux*, February 13, 1901.) M. Dieulafoy reported several cases of hæmatemesis in cases of appendicitis. It is not a rare occurrence in appendicitis, as in nine months he has seen six cases; the author thinks they are due to a toxic infection giving rise to gastric erosions. He concludes by saying that in his opinion appendicitis ought not to be looked upon as a purely local disease, whose greatest danger is peritonitis; there is also the danger of general infection and intoxication of the body, and these are too often overlooked and attention simply paid to the local condition. (Quarterly Medical Journal, May, 1901.)

### JAUNDICE IN CHILDREN.

(By Dr. G. F. Still, *The Clinical Jour.*) In children beyond the age of infancy jaundice is commonly catarrhal in origin, and occurs after some gastro-intestinal disturbance as vomiting, diarrhoea, or constipation. There may be marked pain in the epigastrium

and right hypochondrium; there may be slight fever at the onset, and the liver is somewhat enlarged. In children marked slowing of the pulse and itching of the skin are not common. In these cases jaundice usually passes off in a week or fortnight, but may last several weeks; in some cases it recurs at short intervals. It is possible these may be due to biliary calculi, but Dr. Still suggests they are more likely to be due to recurring catarrhal jaundice. A serious cause of jaundice in children is cirrhosis of the liver, resembling that due to alcohol in the adult. Some of these may be alcoholic, but others appear to have no such connection. Here the symptoms are slight jaundice, a very large spleen, and a tendency to epistaxis or other hemorrhages, and the liver, if it can be felt, may be discovered to be hard and irregular; such cases are fatal in two or three years. Jaundice in children may also be associated with heart disease, pneumonia, tuberculosis, &c., and in the two latter is of very grave significance. (*Medical Times and Hospital Gazette*, June 1, 1901.)

#### LAVAGE OF THE STOMACH IN CHILDREN.

Heubner (*Revue mensuelle de Mal. de l'Enfance*, Nov. 1900), says that in acute indigestion the artificially-fed child is suddenly seized with repeated vomiting, anorexia, and signs of collapse. Here there frequently exists a certain sluggishness of the stomach preventing the onward passage of the food. The intestine is protected, for some hours at least, from infection by the decomposing stomach contents, so that evacuation of the stomach by means of the tube, with subsequent lavage, brings about a rapid cure and prevents intestinal disturbance. These conditions in the infant constitute the chief indication for lavage of the stomach. Neither emetics nor purgatives are by any means so satisfactory; the former add to the general depression, and the latter favour the progression of decomposing food into the intestine. The fluid used should always be a physiological solution of sodium chloride or a solution of sodium bicarbonate of the strength of 0.7 per cent., appropriately warmed. Pure water should never be employed, since it acts unfavourably on the epithelium of the stomach. The pressure should not exceed that of a column of water 20 cm. in height. (From abstract in the *American Journal of the Medical Sciences*, April, 1901.)

#### LIVER, CARDIAC CIRRHOSIS OF.

Piéry (*Archives Générales de Médecine*, Nov., 1900) comes to the conclusion that cardiac cirrhosis is not the result, pure and simple, of venous engorgement; this is supported by careful



clinical and microscopical observations. Venous stasis, however, is a disposing factor, inasmuch as it renders the liver a favourable soil for the true causes of cirrhosis. Thus alcohol and poisons produced by intestinal autointoxication are important factors in the production of hepatic cirrhosis, while infections such as tuberculosis and acute rheumatism have the same effect. In nine cases where there had been prolonged chronic venous congestion of the liver, microscopic examination failed to show any trace of proliferation of connective tissue in the liver. Parmentier's experimental results obtained by producing tricuspid regurgitation in dogs were confirmatory. In fifteen cases of cardiac cirrhosis the causes of this change were alcoholism (in 7), with (in 5) or without arterio-sclerosis tubercle (in 3), and acute articular rheumatism (in 2). (From Dr. Rolleston's periscope in the Practitioner, February, 1901.)

### NUTRIENT ENEMATATA.

C. A. Ewald (*Die Therapie der Gegenwart*, Oct., 1900), on the basis of his extensive personal experience, recommends the following combination for nutrient enemata. Two tablespoonfuls (40 grammes) of wheaten flour are stirred into two-and-a-half ounces of lukewarm milk or water, and to this mass one or two eggs with a pinch of salt are added, and the whole is then beaten up with one-and-a-half to three ounces of a 15 per cent. to 20 per cent. solution of glucose. The addition of a small amount of alcohol, *e.g.*, a glass of claret—acts as an analeptic. Such an enema corresponds to about 450 calories, of which, of course, only a portion is utilised. The nutritive value of such a mixture may be increased by varying its constituents and adding some peptone preparation, *e.g.*, one of the newer food products, as eulactol or plasmon. It is important, however, to bear in mind that the more complicated the composition of an enema, the greater the difficulty of its application in private practice, and the more probable the production of irritation of the intestine and its premature expulsion. (Dr. F. Craven Moore's abstract in the Medical Chronicle, November, 1900.)

### OPIUM IN SUMMER DIARRHŒA IN CHILDREN.

(By Dr. Lloyd-Grandall, *International Med. Magazine*, July, 1900.) Opium is indicated (1) when the passages are very frequent, with pain; (2) when the passages are excessively frequent, large, and watery; (3) in dysenteric diarrhœa, preceded by castor oil or a saline; (4) in late stages, with small, frequent, nagging passages; (5) when the passages consist largely of undigested food, and the bowels act as soon as food is taken into the stomach. The opiate should not be added to the ordinary



diarrhœa mixture, which is usually repeated at short intervals. It should be given alone. The dose can thus be regulated with much more certainty. This permits of the diarrhœa mixture being largely increased if the exigencies of the case require. Intervals should be sufficient to permit the effect to partially subside before the dose is repeated. They should rarely be less than three hours, while four hours is more commonly advantageous. Lack of precision and exactness has been the cause of much of the harm that has resulted from the use of opium in diarrhœa. The dose varies greatly, and it is impossible to lay down positive rules. It should be as small as possible, the object being to check peristalsis and relieve excessive pain. Narcotism should be strictly avoided. Dr. Grandall suggests the use of Dover's powder—the dose may be at three months, gr. 1/12th; at one year, gr.  $\frac{1}{3}$ ; at 5 years, 2 grs. Of paregoric the dose may be 2 minims at three months, 8 minims at one year, 30 minims at five years old. Morphine is rarely required, but when given hypodermically to young children, the dose should not exceed 1/200 of a grain. (From Dr. Francis J. H. Coutts's abstract in the Medical Chronicle, January, 1901.)

### PANCREAS, SCLEROSIS OF.

Arraga and Vinas (*Arch. de Méd. des enfants*, vol. iii.) having noticed the frequency of changes in the pancreas in children dying of chronic gastro-enteritis, they studied the pancreas carefully in ten cases from two to eight years old. They found it to be hard, more or less diminished in volume, and the seat of a chronic angio-pancreatitis, as demonstrated by microscopic examination. The inflammatory process apparently spread from the intestine through Wirsung's duct to the pancreas. The acini suffered less than the ducts. They maintain that the pancreatic lesion is of the first importance in the symptomatology, prognosis, and treatment of gastro-enteritis. (Boston Medical and Surgical Journal, January 17, 1901.)

### PANCREATITIS, ACUTE.

(From Dr. M. H. Richardson's paper). The frequency with which the diagnosis of pancreatitis has been made is suggestive. In all obscure cases of sharp pain high up in the abdomen the one who always says "acute pancreatitis" will sooner or later be right. I have said it many times, but never was right. The fact is, that the diagnosis of these obscure lesions is practically impossible unless time is taken for study, which the imperative call for operation forbids. The only case of mine in which this lesion was really found was one in which it had not been

suspected. The last case in which this diagnosis was made was very recent. One of my assistants thought the lesion an acute pancreatitis; a consultant, intestinal obstruction; the rest of us made no diagnosis. Under ether it was plainly an acute appendicitis—in other words, it proved to be what almost all obscure inflammations in the abdomen prove to be—an acute appendicitis with general peritonitis. (Boston Medical and Surgical Journal, March 7, 1901.)

### SAND, INTESTINAL.

Sir Dyce Duckworth and Dr. A. E. Garrod contribute a paper on this subject, and describe a case in which sand had been passed. The patient was a woman, aged 33, in whom the only sign of organic disease was some thickening of the wall of the large intestine, but who had suffered from intractable diarrhœa for two months before sand was discovered in her motions. When the sand was examined by the authors it was found to be of a reddish-brown colour, and gritty, somewhat resembling a uric acid deposit. It was insoluble in cold and in boiling liquor potassæ, but readily soluble in boiling nitric acid. The diarrhœa was checked by appropriate treatment, but there remained slight tenderness on pressure over the splenic flexure. There was comparatively little pain throughout the case. There was a distinct gouty history on the father's side, and Dieulafoy had shown that in these cases there was commonly a family history of gout. The organic basis in which the sand granules were imbedded was found to contain large numbers of bacilli and micrococci. Chemical analysis showed the sand to consist of calcium oxide (about 55 per cent.), phosphorus pentoxide (about 42 per cent.), carbon dioxide (about 2 per cent.), and traces of magnesium and iron; calcium phosphate was clearly the chief mineral constituent. Urobilin seemed to be the principal pigment present, but there were traces of unaltered bile pigment and of an unknown pink pigment. Evidence was advanced to show that the probable seat of the formation of this sand was the upper part of the colon. (British Medical Journal, March 2, 1901.)

### SYPHILIS OF THE STOMACH.

In the *Archiv für Verdauungskrankheiten*, vi. 2, is a paper by Max Einhorn on syphilis of the stomach. The syphilitic affections of the stomach dealt with by the author are: ulcer, tumour, and pyloric stenosis. He has observed two cases in which the clinical diagnosis of syphilitic ulcer of the stomach was unquestionably correct. One patient presented other manifestations and syphilitic lesions; the real nature of the disease



in the other patient was only recognised by means of the history of the case. The effect of non-specific and specific treatment confirmed the diagnosis in both instances. Syphilitic tumours of the stomach have hitherto only been recognised in the post-mortem room. They are, moreover, relatively rare. Dr. Einhorn has on two occasions diagnosed a syphilitic tumour of the stomach in the living subject. Both patients presented all the symptoms of gastric carcinoma, the history only, in each instance, suggesting a gumma. The accuracy of the diagnosis was quickly verified by the effect of treatment. The author insists on the importance of excluding syphilis in cases of gastric tumour. When the gumma is situated near to the pylorus, symptoms of stenosis may develop. This is a transitional form between a simple syphilitic tumour and a syphilitic stricture of the pylorus. The recognition of these tertiary syphilitic lesions of the stomach, which simulate the most serious gastric diseases, is the more important in that they are amenable to treatment by anti-syphilitic remedies. (Treatment, February, 1901.)

#### TYPHOIDAL PERFORATION.

Dr. Harvey Cushing relates a case successfully treated by operation. The patient was a man aged 20 years, with apparently a mild attack of the disease. *Case.*—Typhoid fever with abdominal symptoms from onset. Local peritonitis with pre-extravasation symptoms supposed to be due to a small hemorrhage. Subsequent laparotomy (forty-five hours later) under local anæsthesia for symptoms of collapse. Closure of perforation. Drainage. Second perforation into wound. Temporary fistula. Recovery. The day after the operation (June 6) there was considerable distension, which was relieved by turpentine enemata. His post-operative leucocytosis persisted for a couple of days, apparently due to an infection of that part of the parietes which had been closed. As is often observed, an abdominal incision which has been soiled during such an operation takes care of micro-organisms less well than the underlying peritoneum. The wound had to be laid open its full length, disclosing an infection of the muscle and panniculus. Two days after the laparotomy the patient's abdomen was soft and free from rigidity for the first time since his admission to the hospital. On June 14, eight days after the operation, at a point of the bowel exposed in the lower angle of the wound just proximal to the coil which had been covered by the omental graft, a thin area gave way, and a fæcal fistula developed which persisted for some time. The abdominal wound, owing to the necessity of abandoning the sutures at the angles, had gaped considerably, and it was possible to keep under observation the



underlying loop of ileum. The omental graft played its part well and possibly saved that part of the bowel from other perforations : an imitation of nature's method of protecting such surfaces. The wound had closed, and the patient was discharged from the hospital early in August. (*Annals of Surgery*, May, 1901.)

#### ULCER, DUODENAL, IN AN INFANT OF 10 MONTHS.

Vanderpoel Adriance reports, in the *Archives of Pediatrics* for April, 1901, a case, remarkable only on account of the age (ten months) of the infant. The symptoms were restlessness, gastrointestinal troubles, vomiting, constant crying, and emaciation. There was a cessation of symptoms for two weeks, and then a relapse, during which the child died. Blood was vomited several times before death. The autopsy showed an ulcer of the posterior wall of the duodenum, chronic ulcerative follicular colitis, and fatty liver. (*Medical Times and Hospital Gazette*, May 25, 1901.)

#### ULCERS, MINUTE GASTRIC.

Dr. E. Quintard called the attention of the New York Academy of Medicine to the fact that Dieulafoy had described certain cases in which there occurred tremendous hemorrhage from the stomach that proved obstinate to all treatment. At autopsy no lesion of the mucous membrane of the stomach could be found to account for the hemorrhage. When the gastric mucous membrane was carefully gone over with a magnifying glass a tiny erosion was found which had eaten its way into the side of one of the smaller gastric arteries. As the artery had not been completely cut through, the normal mechanism for the prevention of hemorrhage by contraction of the arterial coat failed of accomplishing, and the hemorrhage continued. The only way by which the hemorrhage could be stopped was by clotting at the point of erosion. Owing to the movements of the stomach, especially the vomiting, this is difficult, and so the hemorrhage continued. In one of these cases absolutely no arterial sclerosis was found, and there was no sclerosis of the liver ; the patient suffered from a certain amount of alcoholic gastritis. It is probable that some of the so-called nervous hemorrhages from the stomach, that is, hemorrhages without any pathological lesion of the gastric mucous membrane, are really cases of this form of very minute erosion into a blood-vessel, the erosion escaping notice in the ordinary macroscopic examination of the mucous surface. (*Medical News*, January 5, 1901.)

**ULCER, SITE OF GASTRIC.**

The situation is most frequently in the pyloric region (in more than 75 per cent.), and on the lesser curvature or the posterior wall. In Ewald's experience—the number of necropsies upon which it is based is not given—the site is usually at the pylorus and the greater curvature “corresponding to the most dependent portion of the stomach at which the gastric juice collects in the erect posture.” Nolte, quoted by Ewald, gives the seat of frequency as the greater curvature, 22 ; pylorus, 3 ; posterior wall, 2 ; anterior wall, 3 ; cardia, 1. But Welch's analysis of nearly 800 cases shows very marked deviation from this ; in these the lesser curvature was the seat in 36.3 per cent., the posterior wall in 29.6 per cent., the pylorus in 12 per cent., the anterior wall in 8.7 per cent., the cardia in 6.3 per cent., the fundus in 3.7 per cent., and the greater curvature in 3.4 per cent. (From Dr. Stewart's paper in the *Therapeutic Gazette*, March 15, 1901.)

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## Affections of the Urinary and Generative Systems.

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**ALBUMINURIA IN LEAD IMPREGNATION.**

The experiments of Ollivier, denied by Rosenstein, but repeated with affirmative results by Lancéreaux and Danjoy, show that albuminuria occurs in lead poisoning ; Sir A. Garrod has found that in gout in its chronic form albuminuria is present in 26.5 per cent. of cases. *A fortiori* it follows that in gout associated with lead impregnation albuminuria would occur more frequently, and experience confirms it, for of the 107 cases it was present in 89, either as an intermittent or permanent condition. In 18 cases it was not observed. In the initial stages it may be absent, or be intermittent ; in subsequent stages it is more frequently found, either as an occasional or constant occurrence, but in the later stages it always exists ; so that it may be affirmed that albuminuria is one of the most constant, certain and characteristic symptoms in saturnine gout, and is always present at some time in the progress of the disease. A daily examination of the urine was made in the 107 cases, and the statement made as to the frequent presence of albuminuria is the result of these observations. The specific gravity of the urine was found to be diminished, averaging 1012, often lower ; in the later stages, however, as the disease advanced, about 1004. The quantity of



uric acid was found to be decreased, and in the final stages practically absent altogether. (From Dr. Lorimer's paper in the *Quarterly Medical Journal*, May, 1901.)

### **BRIGHT'S DISEASE, DIET IN.**

In a paper on this subject read in the Section of Therapeutics at the recent International Congress of Medicine, Robin said it is recognised that the same system of diet is not suitable for all sufferers from Bright's disease. In all cases a mixed diet of milk and vegetables or of milk and meat has a better effect than the exclusive use of milk. The following is the system that he adopts for the purpose of ascertaining the regimen most suitable for each patient. He begins by giving only milk. This has the effect of first increasing the amount of albumin in the urine; then it diminishes, and remains stationary. At this stage vegetables are added to the diet. New oscillations are then produced; when these have ceased meat is cautiously allowed, whilst milk and vegetables are continued. In this way it is easy to ascertain which of the three systems of diet—milk, milk and vegetables, or milk, vegetables, and meat—brings about the most marked diminution in the amount of albumin eliminated. It is important, also, to ascertain the value of each alimentary substance in regard to the production of albuminuria. Some researches which Dr. Robin has made on this subject have led him to the following conclusions: Bread has no effect on the albumin; wine causes an increase; amongst meats, beef and veal are more to be recommended than mutton or fowl; fish should be forbidden. (*Therapeutic Gazette*, December 15, 1900.)

### **CALCULUS, HÆMATURIA IN RENAL.**

In hæmaturia due to renal calculus, the hemorrhage is usually small in amount, and generally recurs at short intervals. The hemorrhage bears no close relation to the pain, or to the other symptoms; it is generally increased by exercise, and diminished by rest. This is an important point of difference from renal tuberculosis. As there is usually no nephritis associated with the presence of a stone in the pelvis of the kidney (at least in the earlier stages of the disease), the quantity of albumin is fully explained by the presence of the blood. When the blood is absent from the urine, there is likewise no albumin present. The blood is thoroughly mixed with the urine, but not so thoroughly as when the hemorrhage is from the renal parenchyma. As a result, after standing a few hours, the red blood cells will all be precipitated, leaving the supernatant fluid clear. Pus is found in the urine only after the stone has produced inflammatory changes. A calculus obstructing one ureter may reflexly cause inhibition of the other kidney with complete anuria.



Irritation of the bladder by fragments of stone, and consequent frequent micturition, are common. Gastric disturbances are likewise often present. (From Dr. Joseph Wiener's paper in the New York Medical Journal, March 9, 1901.)

### GONORRHŒA, TREATMENT OF ACUTE.

As the gonococcus grows in an alkaline medium, drugs to render the urine alkaline would seem to be theoretically contraindicated. The citrate and acetate of potash are useful, mainly, in that they make a patient thirsty. The same result can be accomplished by making him drink water as a medicine. If it does not upset his digestion, at least two quarts a day should be drunk. Compound salol capsules are good, and should be taken after meals and before going to bed. They give about the same results as sandal oil, but without the back-ache which that so often causes, and they do not as often disagree with the stomach. Methylene blue is also of some use. It is necessary to see that you get methylene and not methyl blue, as the latter has no effect. It is best given in capsules containing one grain of methylene blue, one drop of oil of cassia, and one drop of oil of sandal wood. Three capsules a day is usually as much as a patient can take, and at times the dose has to be reduced to two after forty-eight hours. More causes very frequent micturition and tenesmus. The urine is green, and stains the clothing if allowed to come in contact with it. Urotropin has not done as well as it was at first hoped it would. Given in large doses it causes great scalding. Where the bladder has become infected, and there is a dirty alkaline urine, it is extremely useful, and often accomplishes very prompt results. Salol is indicated in the same class of cases as urotropin, but is not quite as efficient as urotropin as a urinary antiseptic, while it has the same disadvantage of causing scalding when given in considerable amount. (From Dr. Balch's paper in the Boston Medical and Surgical Journal, February 7, 1901.)

### HÆMATURIA.

Dr. Schwabe (*Therapeutische Monatshefte*, 1900, Heft 6, S. 311) reports a single instance of the successful use of gelatine. A solution of 2 per cent. of gelatine in physiological salt solution was heated to 212 deg. F. and allowed to cool. About six drachms, at body temperature, were injected, with antiseptic precautions, under the right and left clavicles. For the next eight days the patient took *per os* a pint of a 10 per cent. gelatine solution. Hemorrhage began to diminish immediately after this injection, and practically ceased five days later, although three days more were required for its entire disappearance. (American Journal of the Medical Sciences, March, 1901.)

**INCONTINENCE OF URINE, RHUS AROMATICA IN.**

In *Le Mois Thérapeutique* for September 30 occurs an epitome of Dr. Perlis' Thèse de Paris, 1900, in which the author claims for this drug a curative effect in the urinary incontinence of children. The conclusions are based on notes of 156 cases collected up to the time of publication. If it is still too much to say that this drug has a truly specific action, as has been asserted, it is at least permissible to affirm that it is equal, if not superior, to all other modes of treatment in use. This method of treatment is amongst the most simple in application. The fluid extract should be prescribed in quantities of 15 to 60 drops daily, divided into three doses. It gives rise to no accident or inconvenience, a toxic dose not being reached, and it succeeds often in cases where all other means have failed. Its mode of action is unknown, but an effective remedy is not to be despised in the treatment of a malady so bizarre and recalcitrant. (Abstract in Treatment, December, 1900.)

**PHENYLHYDRAZIN TEST.**

(From Dr. R. N. Wilson's paper, *Philadelphia Med. Journal*, March 30, 1901.) One method consists in heating equal parts of sodium acetate and phenylhydrazin ( $\frac{1}{2}$  inch of each in a test tube) with the urine over a spirit lamp for two minutes after the solution has reached boiling point. This is Williamson's method, and the author's modification consists in not allowing the fluid to cool in the tube before observing results, but in placing a drop of it upon a slide and examining it under a low microscopic power. If the reagents have been thoroughly mixed and dissolved in the urine before boiling, crystals of phenylglucosazone will be observed to form in about half to two or three minutes. The crystals are brilliant yellow, and contrast strongly with the brown globules often noticed in the precipitate. (Medical Times and Hospital Gazette, June 8, 1901.)

**TESTES, TYPHOID AFFECTIONS OF THE.**

A study of these cases justifies the following conclusions: (1) Epididymitis or orchitis occurring in the course or during the convalescence of typhoid fever is a rare lesion and is of typhoidal origin. (2) Only very exceptionally is it due to secondary microbic infection. (3) It develops at a late period in the disease or during convalescence. (4) The lesion, although as a rule unilateral, may be bilateral; and involves either the epididymis or testicle or both, and not infrequently the cord. (5) Effusion into the tunica vaginalis is rare. (6) Termination most often is by resolution. (7) Suppuration occurs in twenty-five per cent.



of all cases. (8) Localised necrosis and extrusion of testicular tissue is not uncommon. (9) Exceptionally there is destruction of the entire testicular structures. (10) Atrophy of the testicle occurs, but it is a rare sequence. (11) The lesion gives rise to little constitutional disturbance. (12) Death as a direct result of the lesion has not been noted. (Medical Record, May 25, 1901.)

### TUBERCULOUS TESTIS, CASTRATION FOR.

Professor von Bruns (Tübingen) said, at the German Surgical Congress, that castration was not now performed so frequently as it used to be, and double castration was avoided as much as possible because psychical troubles were said to follow this operation. There were also cases in which castration, in the full sense of the word, was not necessary, because sometimes, and especially when the disease was progressing but slowly, the removal of the tuberculous portions of the testicle or the epididymis was sufficient. Professor von Bruns had collected the statistics of the cases of this disease which had been met with at the Tübingen surgical clinic during the past fifty years. He was able to examine 112 cases, comprising 79 in which the disease was unilateral, and 32 in which it was bilateral. The disease began nearly always at the epididymis; in 24 per cent. the testicle was affected with tuberculosis six months afterwards, and in 40 per cent. one year afterwards. In 26 per cent. the second testicle became tuberculous after the first had been removed. As to the results of unilateral castration, he had found that 13 per cent. of the patients died, that in 15 per cent. of the cases tuberculosis of other organs occurred afterwards, that in 26 per cent. the other testicle became tuberculous, and that in 46 per cent. there was permanent cure. After bilateral castration as many as 56 per cent. of the patients were permanently cured. With regard to tuberculosis of the uropoietic system, he stated that it was not more frequent in connection with tuberculosis of the testicles than in connection with tuberculosis of the other internal organs. His final conclusion was that the results of castration were not so bad as had been suggested. (From report of German Surgical Congress, Lancet, May 18, 1901.)

### TUBERCULOSIS, PAIN IN RENAL.

Pain in tuberculosis of the kidney depends upon whether the pelvis and ureters are involved. When the kidney parenchyma alone is involved, the patient seldom complains of severe pain, but usually experiences only a dull, dragging sensation in the

loin. It is often a distressing symptom in cases of ascending tuberculous disease or in advanced cases of primary renal tuberculosis where the pelvis, ureters, and bladder are also affected. In character it is usually a slight ache, or slight dulness, or heaviness in the lumbar region. It is unilateral, or predominates on one side. It is extremely variable and capricious in its characteristics. As a rule, movement does not influence it, but in some cases the acts of walking or moving quickly will produce pain severe enough to simulate stone in the kidney. The dorsal position in bed quietens it. It is somewhat aggravated after meals, or after a blow, or by cold, but chiefly before the monthly periods. It may radiate towards the bladder, groin, and thigh of the affected side, the rectum, or the opposite kidney. (From Dr. Kinghorn's paper, *Montreal Medical Journal*, March, 1901.)

#### URETERECTOMY, TOTAL.

[Dr. Willy Meyer reports a case in which nephrectomy had been previously performed. He makes the following remarks :] The following plan of determining the local conditions was devised. The urine was passed and put aside ; deep massage was then done over the region of the left ureter, and the urine was passed a second time. The second urine contained an amount of foul-smelling material that was not present in the first urine, and this showed that a septic infective process was at work in the ureter of the side on which nephrectomy had been done. Ureterectomy was decided on, and the incision adopted was that suggested by Dr. James Israel of Berlin. The incision was carried parallel to the twelfth rib until the tip of the eleventh rib was reached. This wound was prolonged downward to the middle of Poupart's ligament, and from there carried over to the median line. The ureter in this case was extremely hard to find, because of the absence of the usual anatomical landmarks. The ureter was found buried in a mass of inflammatory tissue on the left side, and was excised only after the most patient dissection. This case emphasises very forcibly the lesson that whenever nephrectomy is done, if the ureter is not removed with the kidney the operator should determine positively that there is no serious pathological process in it. In every case bougies should be passed down to the bladder to be sure that the ureter is free. Nephrectomy has failed in a number of cases to give the expected relief, because some pathological condition of the ureter remained unrecognised. Sometimes the stricture will be found in the ureter at its entrance into the bladder. (*Medical News*, January 19, 1901.)



## General Surgery, and Affections of the Bones, Joints, &c.

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### CHLORETONE IN ANÆSTHESIA.

[The following is from Dr. Hirschman's paper:] It was given in doses of ten grains to women and boys under sixteen years of age, and of fifteen grains to men, half an hour before the anæsthetic was to be started. I personally have observed sixty cases, in a space covering a little over three weeks. Half of the patients received chloretone, and the other half, for the purpose of comparing results, did not. The operations were of the same class, the operators were the same, and I personally gave the anæsthetic in nearly all the cases. The amount of anæsthetic in the cases of patients receiving chloretone was from one third to one half less than in those not receiving it, and in none of the thirty receiving the drug was stimulation required during the anæsthesia. Out of the thirty receiving chloretone, none was nauseated while being anæsthetised, and three, or 10 per cent., were nauseated, and only one of these vomited more than twice, on coming out from under the influence of the anæsthetic. Of the thirty less fortunate patients who did not receive chloretone, twenty-four, or 80 per cent., were nauseated and vomited, and nineteen of them were still unable to retain liquid food on the following day; in some of these the nausea and vomiting persisted at intervals for three or four days. The benefits of chloretone in this connection are self-evident. The difference of 70 per cent. in its favour is the most powerful argument for it. (New York Medical Journal, December 15, 1900.)

### CHLOROFORM POISONING.

Dr. Maag used direct massage of the heart and inflation of the lungs in a case, as suggested by Prus. A person under chloroform becomes asphyxiated. All known methods of re-animation fail; the body lies on the operating-table, without pulse and respiration, cold and motionless. All visible manifestations of life are gone. A couple of ribs are resected, and the heart exposed to view; it is a flaccid, lifeless, muscular pouch. The heart is then grasped and rhythmically compressed while air is being blown down the trachea. After a little while the latent vitality of the cells of the heart-muscle is again stimulated into action: the heart contracts. Feeble at first and tentative, as it were, appears the recurrent action of the heart; but the organ soon gains strength, and makes the blood

circulate. Some time later the first gasping respiration takes place, then a second and a third, and life has practically been restored. The breathing stopped twenty minutes later, but the heart continued to beat for eight hours. Dr. Maag failed to restore consciousness. (From Dr. Freyberger's paper in *Treatment*, January, 1901.)

### GRAVES'S DISEASE, OPERATION ON SUBJECTS OF.

[Dr. Delpratt Harris records a case in which a woman aged 46 years had the breast removed. She died 68 hours after the operation. The following are his remarks:] A patient suffering from well-marked Graves's disease, who from circumstances is obliged to undergo an operation of a formidable character with all its mental disturbance, other than such on the thyroid gland itself. It would seem that the condition of the heart is from the first the great difficulty; beating irregularly at great speed, which possibly indicates thin and dilated ventricles, the anæsthetic at once converts chronic compensation into acute embarrassment, whilst unavoidable loss of blood causes temporary quickening of the already too quick pulsations, causing general weakness and exhaustion, which, owing to the anæsthetic sickness, cannot at first be remedied by food, and thus before compensation can again be restored our patient sinks. Therefore in advanced cases of exophthalmic goître every effort should be made to avert a serious operation; but if it is absolutely imperative, a course of treatment with remedies of the digitalis class should precede. Should the heart not respond to this treatment, the operation should be reconsidered, for undoubtedly the risk in such cases is of the gravest possible character. The loss of blood at the operation was very moderate after, as well as at the operation, so that the pulse and temperature noted would seem to be that of unavoidable conditions when operating on goïtrous patients who have well-marked Graves's disease. (*British Medical Journal*, May 4, 1901.)

### SARCOMA CURED BY ARSENIC.

Petrini reports a case (*Bull. Acad. de Med.*, August 7, 1900) of sarcoma at the root of the throat with multiple metastasis in the skin, which was cured by the use of cacodylate of sodium. The patient was a man of 40, who had syphilis. The growth was at first looked upon as syphilitic, but mercury and iodides had no effect on it, and, as metastatic tumours formed, one was cut out and examined, when it was found to be of a sarcomatous nature. Treatment was commenced with 5 cgrms. of the cacodylate, injected into the buttock. The dose was rapidly increased till 10 cgrms. were given daily. After three weeks, as no improvement was noted, one-third of the dose was injected directly into



the tumour, when in ten days distinct improvement was noted, and the dose was raised to 14 cgrms. After fifty injections, treatment was stopped for ten days, when 13 cgrms. were injected daily for three weeks. The tumours completely disappeared, leaving only slight marks. Petrini mentions another case which improved under sodium arsenite, as far as the cutaneous metastases were concerned, but died eventually of an internal recurrence. (From Dr. Stockman's summary, *Edinburgh Medical Journal*, January, 1901.)

### SKIAGRAPHY : ITS MEDICO-LEGAL ASPECT.

The skiagraph has been admitted as evidence. Undoubtedly, many suits for damages will be based upon its findings. The safety of the practitioner lies in its employment to prove that the reduction and fixation have been accomplished, or, if not, he should have proof that he suggested its employment to the patient and was refused its aid. The skiagraph, however, can never form the basis upon which the amount of damages is assessed. That will depend, as formerly, upon the functional disability and loss which the patient has sustained. It can only form a part of the evidence, as it does not take cognisance of the injury which has taken place in the soft tissues, although much may be inferred from the relative position of the bones about a joint. Whenever a skiagraph is introduced as evidence, the defendant should demand the privilege of having a similar examination made, and should employ expert testimony to fully explain its meaning to the jury. It is especially in this connection that the accuracy of this method has been brought in question. Is the skiagraph absolutely certain to detect a fracture? Does it represent relatively the amount of osseous injury? Is the distortion so great as to make it unreliable? (From Dr. Leonard's paper in the *Medical News*, February 23, 1901.)

### SKIAGRAPHY, SURGICAL ERRORS IN.

Under this heading Dr. Carl Beck (*Journal of American Medical Association*, January 5, 1901) draws attention to facts already recognised by the majority of surgeons who have had experience in the use of the Roentgen rays, viz. that normal plates should be at hand for consultation, that the two corresponding limbs should be compared, that rachitic changes may simulate injury of bone, and that pictures should be taken in at least two planes. He quotes a case by Williams, in which the os intermedium cruris had been demonstrated by the rays, and had been thought to be a fragment of astragalus; examination of the sound limb cleared up the diagnosis. He also mentions a case of his own in which an oblique fracture of

the tibia, in a boy, aged 4 years, was clearly demonstrated in a lateral picture after it had been missed in an antero-posterior view of the parts. He also states that, according to the x-rays, epiphyses at the knee unite at sixteenth year, and not seventeenth to twenty-fourth as is stated in the anatomy books. (Glasgow Medical Journal, March, 1901.)

### SPINAL ABSCESES, TREATMENT OF.

(From Mr. Tubby's paper.) (1) Do not wait to open a spinal abscess until the skin is reddened and involved. (2) So far as possible open the abscess at certain "seats of election," the places of evacuation to be decided by the direction taken by the abscess and by the surgeon. (3) Wherever evacuation is decided upon, let it be done as far as possible away from the groin, and in such a position that more than one opening can be made into the abscess cavity. (4) Carefully cleanse the cavity and rub the interior thoroughly with menthol or iodoform solution. (5) Avoid drains of all kinds. (6) Be careful to carry out perfect aseptic measures from first to last. (British Medical Journal, December 22, 1900.)

### SPINAL ANÆSTHESIA IN CHILDREN.

Quincke's lumbar puncture has become generally recognised as a valuable means of diagnosis and treatment in cerebro-spinal diseases of children. That this method has proven comparatively harmless in the hands of those versed in its technique does not at all prove the harmlessness of the Corning method of spinal anæsthesia in children. Some cases of the use of this method in children have now been reported with no very serious after-effects, so far as we have been able to learn. The fact that consciousness is not interfered with renders it inapplicable in many cases. It is indeed a valuable adjunct to our methods of producing anæsthesia, and should be regarded only as such. Experimentation upon patients in which general anæsthesia is not distinctly contraindicated seems to us absolutely unjustifiable. Many have for a long time hesitated to use cocaine in operations upon children when injected subcutaneously. How much greater must be the danger when this substance is brought into close relation with the nervous centres? (Leaderette in Pediatrics, February 15, 1901.)

### SPINAL ANÆSTHESIA, DANGER OF.

In a recent number of the *Journal of the American Medical Association*, Dr. Shoemaker, of Philadelphia, very opportunely calls attention to the many dangers of the recently-introduced method of spinal anæsthesia. He points out that cocaine is



liable to induce serious disturbances in the innervation of the heart and lungs, depressing the circulation, and rendering respiration laboured and shallow. In some instances it has given rise to thrombi and emboli, and these severe toxic manifestations have not always proved fugitive. It must be remembered, too, that cocaine is a treacherous drug, many individuals exhibiting a peculiar sensitiveness to its influence. Apart from the toxicological aspect of the question, he remarks that the operation itself is by no means always as easy as it has been represented, repeated punctures often being necessary before the arachnoid cavity is penetrated. Unless anæsthesia of the skin is obtained as a preliminary measure, these punctures are themselves the source of much pain. Even when the operation is skilfully performed, the drawbacks are many. Severe and long-continued headache seems to be a common manifestation, associated very frequently with distressing nausea and vomiting. Lastly, the operation is not always successful in respect of the induction of anæsthesia. Dr. Shoemaker does not absolutely condemn the procedure, but he asserts that every intervention of the kind must be regarded in the light of an experiment, and in view of the lethal possibilities of such experiments, a word of caution is certainly not out of place. (A leaderette in the *Medical Press and Circular*, January 2, 1901.)

## TRANSFUSION.

Mr. Annandale (*Scottish Medical and Surgical Journal*, Sept. 1900) gives a short historical account of this operation, which has a very ancient origin. His conclusions are: (1) The indirect method with pure blood shed from another person and injected into the patient's veins is attended with such risks of clotting and the introduction of septic matter, that it cannot be advised. (2) The injection of blood carefully prepared by the addition of phosphate of soda, so as to prevent its coagulation, and kept at a temperature equal to the body heat, is on the whole the best. It is superior to simple saline injections, because the elements of the blood, though short lived after their injections, do add somewhat to the efficacy of the operation. (3) The indirect transfusion of saline solutions is the most simple and safe. (4) Intraperitoneal injections of warm water or saline solutions will be of most use where the abdomen has already been opened, as there is then no risk of injuring the intestines or other organs by the trochar and canula. (5) The injection of warm saline solutions into the rectum or cellular tissues is a safe and simple procedure which may be usefully employed in any sudden emergency. (Abstract in *Medical Chronicle*, December, 1900.)

**WOUNDS, GUNSHOT, TREATMENT OF.**

The following are Dr. E. F. Robinson's conclusions : (1) The modern gunshot wound is generally aseptic, and should be treated on this supposition. (2) Asepsis is due chiefly to character of bullet, and early application of first-aid dressing, and, in a minor degree, to the velocity of the projectile. (3) Primary hemorrhage from modern gunshot wounds is exceedingly rare, the blood-vessels being displaced rather than cut by the rapidly-moving projectile. (4) The "explosive effect" of the modern bullet is much less common than recent military literature would indicate. This peculiar destructive effect is produced by the character of the tissue struck, as well as by the great velocity of the bullet. (5) Gunshot wounds of chest are rarely infected. Simple antiseptic treatment, with aspiration of pleura in cases of severe hemorrhage, is all that is necessary. (6) Gunshot wounds of knee-joint are usually aseptic, but, if infected, demand immediate amputation to save life. (7) Excision of elbow is always a justifiable operation in severe shattering or infection of that joint. Resection of bones of other joints is rarely necessary, erosion or amputation being preferable. (8) Injuries of nerves from gunshot wounds can often be benefited by operative interference or resection. (9) In modern military surgery, abdominal section for gunshot wound is not justifiable ; the patient's best chance of recovery lies in conservative treatment without operation. (*Annals of Surgery*, February, 1901.)

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## Affections of the Skin, &c.

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**ALOPECIA AREATA.**

Dr. Jacquet (*Ann. de Derm. and de Syph.*, 1900) refers to the value of friction in this disease. Locally, our efforts should be directed to reawaken the vitality of the hypotonic zones, and to restore the normal tone. Systematic massage repeated many times a day, not restricted to the denuded regions, produces rapidly a state of cutaneous hyperæmia and hyperthermia, which is a chief element in cure. With this is combined friction and percussion by means of a brush. That employed for the latter purpose should have hard bristles, rendered aseptic, in case of injuring the skin, by dipping them in alcohol containing a little castor-oil and perchloride of mercury, then shaking to disperse



the superfluous fluid before sharply patting the scalp. At the same time every effort should be made to discover and correct any disorder of health, to promote vigour by every available method, and to banish all sources of enervation. (From Dr. Jamieson's summary in the *Edinburgh Medical Journal*, January, 1901.)

## DERMATITIS, BLASTOMYCETIC.

[Dr. H. Stelwagon relates and figures an interesting case in a man aged 49 years. The following is taken from his remarks :] The clinical resemblance to tuberculosis verrucosa cutis is, indeed, striking ; but upon careful consideration and observation it seems that the course and characters of the blastomycetic disease differ, to some extent, from those of tuberculosis ; the repeated kerion-like or subcutaneous abscess formation with, in some such lesions, the cribriform surface, and the character of the contents and of the discharges from the papillomatous interstices are somewhat unlike those of tuberculosis of the skin. Still, it must be admitted that a positive and unquestioned diagnosis in these cases between blastomycetic dermatitis and certain forms of cutaneous tuberculosis can scarcely be made without histological and bacteriological investigations. There is also a resemblance to the papillomatous tubercular syphiloderm, but to a less degree than to cutaneous tuberculosis. In syphilis the discharge from the interpapillomatous spaces and from the gummatous lesions is usually markedly purulent, and rarely, if ever, purely serous or mucoserous, as in blastomycetic dermatitis. In this latter disease, and strikingly so in my case, the serous and mucoserous characters of these fluids was noticeable throughout ; and these discharges were never purely purulent, only showing here and there, or now and then, a slight admixture of pus. Moreover, the general clinical characters were scarcely suggestive of syphilis. As regards treatment, which, however, was not continuous enough in this case, there has, on the whole, been improvement, though very slight, under simple, mild antiseptic applications and tonic remedies internally. Small doses of potassium iodide were given in the beginning of the management of the case, but as no improvement was then noted, and the digestion being thereby disturbed, this remedy was discontinued. At each time that the patient visited the hospital, which he did for short periods daily, and at other times at intervals of a week or so, the abscess-like formations were opened, and the contents pressed out, and all the affected parts were cleansed and sprayed with dilute hydrogen peroxide ; an ointment of boric acid and ichthyol was then applied. (*American Journal of the Medical Sciences*, February, 1901.)

**ECZEMA, MECHANICAL IRRITANTS IN.**

*Scratching.*—Foremost among the local causes of eczema is placed scratching, by Hebra and the followers of the school of local etiology ; and it cannot be denied that in one so disposed the eruption may be developed in this manner. The scratching takes place from two causes : (1) to relieve pruritus, and (2) to remove accumulations, as the crusts already formed by eczema. The pruritus for which scratching is done may, again, be (1) idiopathic, or (2) reflex. Long before there is any eruption of eczema there is sometimes an idiopathic pruritus, which is perhaps often to be accounted as the first symptom of the eruption, which may in turn be due to acidity or auto-intoxication, as an urticaria. Or, again, the pruritus may be entirely a reflex affair, as, for instance, in certain cases where pruritus about the scrotum and anus arises from a reflex irritation caused by urethral stricture or intestinal worms (the latter may also cause an itching about the nose), to relieve which scratching may be practised, resulting in eczema.

*Friction.*—Accidental friction from (1) occupation, (2) clothing, (3) accidental, is constantly seen to be the starting-point of eczema, and need not be dwelt upon here. (From Dr. Duncan Bulkley's paper, New York Medical Journal, November 24, 1900.)

**ICHTHYOL.**

[The following are from Dr. A. Brownlie's conclusions :—] My experience has been that from 2 per cent. to 5 per cent. ichthyol applications are best in acute forms of inflamed skins, and from 5 per cent. to 10 per cent. strengths in more chronic, drier conditions. In acne vulgaris anything up to 25 per cent., namely, between 10 per cent. and 25 per cent., is useful. In all cases the internal administration of the drug is an assistance. I believe that ichthyol taken internally has a direct influence on the skin, and is most probably excreted by it. Moreover, the taking of ichthyol internally increases weight, and this applies more particularly to weakly, strumous children. The one disappointment which I must record is that itching is not relieved as quickly as one might expect, certainly not as quickly as the pain is relieved. The itchiness does indeed disappear after a time, but it is always the last symptom to go. In prurigo and pruritus vulvæ or ani I have not found much benefit to result from the use of ichthyol, particularly in those cases where there is no known organic cause such as diabetes, ulcus cervicis, or anal fissure. When prescribing ointments I always advise the patients to use their oldest under-linen as ichthyol has a staining effect, although it is stated that if quickly washed in warm water any clothing thus stained is made quite clean again. (Lancet, November 24, 1900.)



Ichthyol recommended by Dr. T. G. Lusk (*Post-Graduate*, xv., p. 1007) of the New York Post-Graduate Medical School and Hospital, for relieving the pain and preventing the rupture of vesicles in cases of *herpes zoster costalis*. An astringent, antiseptic drying preparation suitable for the purpose may be made as follows, says the author : Ichthyol, 2 fl. dr. ; magnesium carbonate, 2 dr. ; zinc oxide, 2 dr. ; water to make 4 fl. oz. This mixture should be sopped on and a binder applied to prevent rupture from friction. A 5 per cent. ichthyol collodion may also be used with advantage. (Pediatrics, December 13, 1900.)

### PRURITUS, TREATMENT OF SENILE.

Jaeneche (*Centralbl. f. Inn. Med.*, No. 48, 1900) noted that the regions affected were dry and glazed and ill-nourished, and that on brushing the skin a great quantity of dead and degenerated epithelial cells could be collected. His treatment consists in regular brushing with a soft brush, which removes the degenerated superficial epithelial cells, increases the nutrition of the part, and brings about so much relief that the patients may go for days or even weeks with perfect comfort. The brushing is repeated at first three times daily for from ten to twenty minutes. These treatments are reduced to twice a day and finally once every second day ; a longer interval than this should not be allowed to elapse. There is often no improvement for days, nor is there any marked alteration in the nutrition of the skin. But shortly the patient experiences marked relief, and in many cases is entirely freed from his suffering. It is important that no water should come in contact with the affected regions, since this, though it is followed by a temporary alleviation, renders the treatment by brushing quite futile. Patients frequently brush with so much vigour that the skin is wounded and bloody and the itching is at first increased in intensity. Lanolin inunctions are serviceable adjuncts to this form of treatment. A number of illustrative cases are reported. (From abstract in the *Therapeutic Gazette*, January 15, 1901.)

### RINGWORM IN MAN AND ANIMALS.

Bunch (*Brit. Med. Journ.*, Feb. 9, 1901) reports eight cases of ringworm in which he was able to trace the origin to infection from animals. Two cases of *tinea circinata* were contracted from horses ; two cases of the same from cats ; one case of *tinea tonsurans* from a cat ; one case of *tinea circinata* from a canary ; one case of *tinea tonsurans* from a dog ; and one case of *tinea sycosis* from a calf. In all cases cultures were made, both from man and animal, and in each case the fungus was identical. (Abstract in *Treatment*, March, 1901.)

## Affections of the Eye, Ear, Throat, &c.

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### DIABETES, EYE CHANGES IN.

Dr. N. J. Hepburn, in a paper on ocular manifestations, said that they are of two classes: (1) Those due to defective innervation, and (2) those due to defects in nutrition. Cataract is frequently met with in connection with diabetes, but it is doubtful whether it is not simply a concomitant, rather than due to the diabetic condition. Among the other serious affections liable to occur are optic neuritis and hemorrhage and detachment of the retina. Parenchymatous or pustular keratitis, when syphilis and tuberculosis can be excluded, should excite suspicion of diabetes. In brief, the eye affections most commonly associated with this disease are as follows:— (1) Cataract, (2) recurring hordeolum or sty, (3) paresis of accommodation, (4) keratitis. (Boston Medical and Surgical Journal, April 18, 1901.)

### FOREIGN BODIES IN THE EAR.

The removal of foreign bodies from the external auditory meatus is frequently attended with much difficulty. Should careful syringing (in young children, under a general anæsthetic) fail to dislodge the offending object, various instruments may be used—*e.g.*, forceps, curved probes, curettes, &c., great care being observed that all manipulations are carried out under good illumination of the part. Macaskie has recorded his experience in attempting to remove a piece of india-rubber from the external meatus. A piece of string was teased out and soaked in seccotine. It was then applied to the rubber and left *in situ* until firm adhesion had taken place. By means of steady traction the rubber was finally pulled from the ear. Occasionally it may be necessary to reflect the auricle, and at times even to cut away part of the posterior bony wall of the meatus before the foreign body can be dislodged. In a case recorded by Kaufmann it was found necessary to open the mastoid process. (From Mr. Milligan's summary in the Practitioner, April, 1901.)

### GLAUCOMA, SYMPTOMS OF.

Most cases present the following symptoms, of which one or the other may be more or less prominent: (1) Objectively: (*a*) increased tension; (*b*) dilatation and immobility of the pupil; (*c*) haziness of the cornea; (*d*) shallowness of the anterior chamber; (*e*) enlargement of the episcleral veins; (*f*) excavation of the



papilla ; and (*g*) pulsation of the retinal artery. The consequences of these alterations are (2) subjective symptoms : (*a*) impairment of the visual acuity ; (*b*) contraction of the field of vision ; (*c*) pain in the eye and the forehead ; (*d*) anæsthesia of the cornea ; and (*e*) photopsia. (From Dr. Otto Neustaetter's paper in *Treatment*, December 1900.)

## IRITIS, GONORRHŒAL.

Mr. John Griffith pointed out that gonorrhœa was a common cause of iritis, and was, in fact, a more common cause than syphilis. Not only was it a complication, it was also a sequel of gonorrhœa. Cases occurring at a remote period after the attack were overlooked as regards their causation and being often recurrent were regarded as rheumatic. It was his experience that recurrent iritis was due to gonorrhœa, both this and the rheumatic troubles being subsequent to the attacks of the urethritis. Some instances of recurrent iritis occurred without any history of any rheumatic affection. He disagreed with the view of Mr. Treacher Collins that "syphilis is by far the most frequent constitutional disease to give rise to iritis." Syphilitic iritis was said not to recur, and in the recurrent cases there was probably a past attack of gonorrhœa to which the recurrence was due. In his experience cases of recurrent iritis in syphilitic subjects had been associated with rheumatism and a history of urethritis. In conclusion, he expressed the view that gonorrhœa was as constitutional a disease as syphilis, that iritis was more often caused by gonorrhœa than by syphilis, and that it often occurred at a period remote from the date of inoculation. (Report of Harveian Society of London, *Lancet*, March 16, 1901.)

## IRITIS, RHEUMATIC.

In general, rheumatic iritis injures the eye permanently, to a greater or lesser degree. I have said that posterior synechiæ persist, but it should be noted that there are rare exceptions to this rule. Now and then, an eye recovers perfectly from an attack of rheumatic iritis. Relapses are the rule, however, and complete recovery from a relapse should not be looked for. A sufficient reason for a recurrence of the inflammation may be found in the existence of dense adhesions to the capsule of the lens. The iris is normally extremely active. It responds to light, to convergence, to accommodation, to emotional states, and to a multitude of reflex impulses. Continuous interference with that motility by bands of organised exudate must tend to irritate and inflame an iris that has suffered from an attack of rheumatism. It is not necessary, therefore, to go outside the

eye to assign the cause for the relapse. And, in order to dispose permanently of such tendencies, the strain must be relaxed by an iridectomy, or by some analogous operation. (From Dr. Woodward's paper in the New York Medical Journal, December 15, 1900.)

### MASTOIDITIS, NEW OBJECTIVE TEST FOR.

Albert H. Andrews (*Jour. Am. Med. Asso.*, January 26, 1901) says that the use of the stethoscope and the tuning-fork to determine the comparative density of the two mastoids is a valuable aid in the diagnosis of mastoid complications. The test is made by placing a stethoscope with a small bell over the tip of the mastoid and placing the handle of a vibrating tuning-fork over the antrum. It is found that when the mastoid is filled with pus or granulations, or when it is dense from obliteration of the air-cells, the sound-waves are transmitted to the ears of the examiner more distinctly than when the same test is made on the opposite or normal side. Care must be taken not to stretch the skin between the tuning-fork and the stethoscope, for then the vibrations are heard better than when the skin is not stretched. The lower border of the middle fossa can also be very accurately located by the same method. The line indicating the change from cranial cavity to mastoid is usually well defined. The position of the lateral sinus in relation to the mastoid can be determined in the same manner, but not so accurately. The writer has found this test of use in his examinations of mastoid cases. (*Medical News*, February 9, 1901.)

### OTITIS, TREATMENT OF INFLUENZAL.

At the onset, leeches should be applied at once, one over the mastoid process and one in front of the tragus. When they drop off, the bleeding should be encouraged by hot antiseptic fomentations. For the relief of pain, hot, dry cotton-wool applications should be used, together with hot instillations of cocaine (10 per cent.) Any bulging of the membrane requires immediate incision, more for the purpose of relieving tension than for the pain, as its effect upon the latter is disappointing in the greater number of cases quite different to its result in simple cases. The incision should be large and free, and followed by ordinary antiseptic treatment. When the acuteness of the attack has subsided, granulations and polypi should be removed with the curette, and the tendency to their formation kept in check by astringent instillations and applications. Nitrate of silver (10 per cent.) is often especially



useful in influenzal cases. No attempt should be made to inflate the tympanum until all pain has ceased and the acute congestion disappeared. When influenza attacks the mastoid, and perforation of the tympanic membrane has occurred, leeches and the use of cold or heat by means of ice or Leiter's tubes, or hot antiseptic fomentations should be tried. Blisters and counter-irritants should on no account be employed—they only mask the symptoms and tend to confuse the surgeon. Should the intensity of the symptoms not abate in three days, an operation should on no account be delayed. If the case is first seen several days after the onset of symptoms, no delay is admissible for the trial of antiphlogistic remedies. Bulging of the superior-posterior meatal wall, nystagmus, changes in the retina, or facial paralysis, should also decide the question of immediate surgical interference. (From Dr. Yearsley's paper in the *Medical Times and Hospital Gazette*, April 13, 1901.)

#### SCARLET FEVER AURAL COMPLICATIONS.

Dr. Bernard von Gaessler (*Archives of Otology*, December, 1900) details the result of the post mortem examination in twelve cases. In the majority death resulted from complications of the lungs and kidneys. The drum membrane showed important alterations in three cases. In one an exudate existed upon the lower half, in two others there were perforations. In seven, various abnormalities were present, but they were neither uniform nor peculiar. In two cases a normal condition prevailed. The middle ear, the adjoining cavities, and the tympanic Eustachian opening were involved in every instance in different degrees and ways. The simple cases showed limited infection and swelling of the membrane, some secretion in the bony portion of the tube, with otherwise empty cavities. In other cases sero-mucous and muco-purulent secretion existed in the cells under the tegmen and in the cavity of the middle ear, with considerable infection of the mucous lining of the middle ear, aditus, and antrum. In the severe cases, thick and purulent secretion filled all the cavities, which were lined with thickened, injected, granulating, and hemorrhagic mucous membrane. Simple hyperæmia, secretory process, and fibrinous exudate form the progressive states of the ear disease due to infection. The author thinks that the normal condition of the cartilaginous tube observed in most of the cases lends strong probability to the view that the ear disease is a manifestation of the general infection, and not an extension of the infectious process *in continuo*; and that pronounced inflammatory processes can exist behind a normal, or nearly normal, drum membrane. (*Glasgow Medical Journal*, March, 1901.)

**TEA DRINKING, AMBLYOPIA IN.**

Dr. R. Wallace Henry (*Ophthalmic Review*, December, 1900) says that tea has been regarded as a cause of amblyopia, but the recorded cases are few. Casey Wood believes that asthenopia and amblyopia may both be traced to this cause; and De Schweinitz has included tea amongst the many articles which, if unduly consumed, result in toxic amblyopia. Berry, though not having had one of these cases, also admits the possibility of this result. Dr. J. W. Wolfe, of Glasgow, read a paper before the British Medical Association, in 1879, ascribing to this tea habit an affection of the vitreous of a degenerative character, and Kenneth Campbell related a case of toxic amblyopia due to tea. In the case recorded by Dr. Henry there was a small central scotoma for red in each eye, the field for white being full. The fundus in each eye was apparently normal. Tension was normal, as was also light perception, and general health was good. On inquiry it was found that he did not use tobacco in any form, and only drank a small quantity of beer. On further questioning, it was found that he was always drinking strong tea. This was absolutely forbidden. June 9, distant vision as before; near vision, Jaeger 1, with + 4.5 D. sph; ordered potass. iodid. with nux vomica. June 30, vision was 6/6 each eye, with glasses; dazzling less. July 21, no trouble with work, no dazzling, vision normal. (From Dr. S. Snell's summary in the *Quarterly Medical Journal*, February, 1901.)

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## **Obstetrics and Gynæcology.**

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**ABORTION, CRIMINAL.**

In spite of rarities of obstetric practice, the medical expert will have but little difficulty, as a rule, in determining the probabilities. A microscopic examination of the uterine tissues at the seat of the lesion will be of value, for if no evidence of disease is found the presumption of an external agency will be strengthened. An ordinary abortion does not produce rupture of the uterus nor other extensive or serious lesions. Moreover, the character of the lesion, the appearance of the perforation, if there be such an injury, the colour and condition of its borders, the consistency of the neighbouring parts—all these will indicate whether the solution of continuity is recent or not, and will assist, in connection with the other pathologic conditions observed, in



arriving at a definite conclusion. (From Dr. Denslow Lewis's paper in the *Journal of the American Medical Association*, October 13, 1900.)

### ABORTION, OCCURRENCE OF.

Dr. Hellier gives the following figures, based on the histories of 1,800 gynæcological cases. The 1,800 married women had given birth to 6,974 children, an average of 3.87 each. They had had, according to their own statement, 1,288 abortions. This amounts to about one abortion to every five and a-half children. The number of women in the 1,800 who had had abortion but no children was 58. Deducting from the 1,800, 184 women who had never been pregnant, 1,616 remain. So that of 1,616 women who had been pregnant, 58 had had one or more abortions, but had never gone to term. Thus it follows that amongst a group of women where the frequency of abortion might be supposed to approach the maximum, 96.5 per cent. of those who became pregnant did sooner or later bear one or more children at term. (*British Medical Journal*, January 19, 1901.)

### ABORTIONS.

(From Drs. Purefoy, Lloyd, and Carter's clinical report of the Rotunda Hospital.) There were 69 cases treated in hospital during the year. Ten of these were complete, and required no treatment other than the removal of the ovum from the vagina. One of these patients had a retroflexion of the uterus, which was replaced with some difficulty. In three cases the uterine contents were expelled at the sixth month, one patient having syphilis and another repeated hemorrhages for some weeks before admission, some of which had passed into the foetal sac. In eight the abortion was inevitable. They were all at or before the third month, and the ovum was removed with finger, and when necessary Rheinstädter's douche curette completed the evacuation of the uterus. Forty-three patients were suffering from incomplete abortion. They were all curetted with the flushing curette. One was admitted with temperature 101.6 deg. F. and pulse 130, but both were normal next day, and remained so. One who had been treated for three weeks before admission by drugs, and who came into hospital with a roll of bandage thrust into the vagina, which contained a quantity of blood-clot, had a temperature of 102 deg. on the second day, which fell to normal on the third. Only one other had a morbidity temperature, and from her a macerated foetus of four and a half months was removed. These three were the only cases of high temperature occurring in the cases of abortion. There were two cases of missed abortion in which no foetus was found. (*Dublin Journal of Medical Science*, March, 1901.)

**ANTEFIXATION, THE PERMANENT RESULTS OF.**

Max Cohn, Breslau (*Zeits. f. Geb. u. Gyn.* Bd. xliii., Heft. 3) gives an historical review of the various operations (Alexander-Adams', ventrofixation, vaginofixation) for retroflexion of the uterus, and discusses the results in regard to 338 women operated on for this displacement, in Küstner's Clinic during the years 1893-98. The operations performed on 130 women available for examination as to the result had been: in 39 the Alexander-Adams', in 65 ventrofixation, and in 26 vaginofixation; 15 per cent. of the Alexander-Adams' operations, 6 per cent. of the ventrofixations, and 4 per cent. of the vaginofixations were followed by mischances. On the whole, 91 per cent. were permanently cured; 31 women had conceived after operation; 6 were still gravid, 4 had aborted. His conclusions are that in selecting cases for operation, a sharp distinction must be drawn between mobile and fixed retroflexion, adhesions must be completely remedied before proceeding to operate. Vaginofixation should not be attempted on women who may conceive, but is to be recommended as the best operation for patients past childbearing. In others the Alexander-Adams is to be reserved for mobile retroflexion, ventrofixation for such as have been adherent; but operative treatment of mobile retroflexion is to be avoided unless demanded by the long duration of the malady, the proved inutility of pessary treatment, or the patient's aversion to such treatment. (*British Journal of Gynæcology*, February, 1901.)

**CLIMACTERIC HEMORRHAGES.**

Theilhaber (*Münch. med. Woch.*, 1900, No. 14) believes that in the majority of the cases hemorrhages before the menopause are due to muscular atony. The atrophy of the uterine muscle which is present after the climacteric takes place gradually and is associated with stenosis of the arteries, so that even when the uterine contractions are feeble there is but slight loss of blood. If, however, this atrophy takes place before the stenosis occurs, the muscular contractions are too feeble to control the hyperæmia, hence there result profuse menorrhagia, œdema, and hypertrophy of the uterine tissues. This same atony is the cause of menorrhagia in young girls, in chlorotic and tubercular patients. The prolongation of menorrhagia in patients with uterine fibroids is doubtless due to atrophy of the uterine muscle, with resulting prolonged hyperæmia of the mucosa and the development of endometritis fungosa. In consequence of this hyperæmia the tumour may grow rapidly at this time, while submucous interstitial growths tend to become polypoid. (*American Journal of the Medical Sciences*, April, 1901.)



**CONSERVATIVE GYNÆCOLOGY.**

In Dr. Dudley's 182 cases, 129 resulted in the cure of all symptoms. In most of the cases multiple operations were necessary because the pathological conditions were complex. In 60 cases plastic work had to be done on both tubes and ovaries. In 120 cases the tapping and splitting of cysts was indicated. Out of 182 cases 27 have become pregnant, and 22 children have been born at term. In one case, that of a woman aged 42 years, who had been nine years married, one ovary and tube was removed, and the other tube freed from adhesions. A six-pound boy was born two years later. In this case the woman's condition was so poor that a general anæsthetic was not given, and the operation was done without anæsthesia. In two cases a club-shaped tube was removed, and the tube was carefully left open as far as possible. In both pregnancy resulted, and living children were born. (Medical News, March 16, 1901.)

**CONSERVATIVE GYNÆCOLOGY, REMOTE RESULTS OF.**

Burrage (*Amer. Gynæcol. Trans.*, 1900, p. 69) following this line of treatment has full records of 104 cases ; of these it has been impossible to trace 19, or the patients have been under observation for periods less than a year, reducing the number to 85. He divides these into two classes : (a) The more severe ; (b) the less severe. The former include all those "where there was pus present in tube or ovary, where tubes and ovaries were extensively diseased, and abundant adhesions were present. The less severe are those where there were moderate or mild degrees of inflammation of tubes and ovaries, and few adhesions or none at all." In the first class are 41 cases, in the second 44. Taking the group of severe cases, statistics as to the operations show that "the right ovary was removed 18 times, and resected 9 times. The left ovary was removed 17 times, and resected 10 times. The right tube was removed 19 times and resected 7 times, and the left tube removed 18 times and resected 7 times. All these cases were heard of on an average of two to three years after the operation. Symptomatic cure was noted 28 times ; no relief was experienced in 13 cases. Anatomical cure (ovaries and tubes normal to touch) in 17 cases, unsatisfactory in 14, unknown in 10." In the second class of case, the right ovary was removed 20 times and resected 14 ; the left was removed 12 times and resected 13. The right tube was removed 13 times and resected once ; the left tube was removed 10 times and resected once. Pregnancy resulted in 44 per cent. of this class. Among the author's ten conclusions, two seem to be

important: (1) "It is advisable to do conservative operations in all cases where the ovaries and tubes are not hopelessly diseased in all parts of their structure, except on patients who are near the menopause, on patients who have pronounced gonorrhœa of long standing, and on the rare cases of malignant disease." (2) Should a patient near the menopause be suffering from ovarian or tubal disease of considerable severity, it is wiser to perform complete removal of the diseased parts. (From Dr. Phillips's summary in the Practitioner, April, 1901.)

### CYSTITIS, GONORRHŒAL.

I believe if we use the non-irritant, non-astringent antiseptics, such as protargol and largin, we can achieve the best result by beginning our treatment at the earliest possible moment. So that in cases of gonorrhœal cystitis, beside restriction of diet and the use of frequent hot Sitz-baths, we may begin the use of such remedies, in appropriate strength, in the form of urethral and vesical irrigations, some of the solution being allowed to remain in the bladder each time, these being made in the male without the use of a catheter. In the female the plan which we employed seems to me to offer the best chances of success. It is of interest to note that in all of our cases we were enabled to prevent the spread of the disease beyond the parts originally infected. (From Dr. Bierhoff's paper in the Medical News, January 12, 1901.)

### ENDOMETRITIS, ACUTE SENILE.

(By Dr. L. H. Dunning, *American Journal of Obstetrics*, November, 1900.) As a rule, the cervix is first affected, and the inflammatory process rapidly spreads to the whole endometrium. The cervical canal is usually patulous, and there is no difficulty in passing the sound, even in those cases in which there is retention of discharges in the uterus. The discharge, as a rule, is purulent, blood-stained, and mucilaginous, and possibly in this tenacious character of the discharge lies the cause of its retention in the uterus although the canal is patent. The discharge is, as a rule, very offensive. Another factor in the retention of discharges is that in the senile uterus the ciliary action and intermittent muscular contractions are absent. The uterus is generally increased in size, partly owing to inflammatory thickening and partly to distension of the organ. Bimanual examination is difficult, owing to the inelastic and sensitive vagina. Thorough examination is, however, necessary, even if an anæsthetic must be used, as diseases of the appendages are often found. (From Dr. Stevens's summary in Treatment, February, 1901.)



**ENDOMETRITIS, ADHESIVE.**

A variety of endometritis has been described by various authors as adhesive in its character. It is peculiar in that it usually does not make its appearance until the later months of pregnancy. It is generally limited to the uteroplacental mucous membrane, and should be considered as an affection of the placenta. One of its results is to form a firm adhesion between the placenta and the uterine wall. It may or may not jeopardise the life of the foetus, but it nearly always complicates delivery. The placenta does not come away spontaneously, and frequently is difficult to remove artificially. Generally, pieces of the placenta will be left adhering to the wall of the uterus, and there form a constant focus of infection. It is in such a condition that the mother experiences pain during movements of the foetus. The walls of the uterus are tender and painful, and consequently it has received the name of uterine rheumatism by several of the older writers. It is sometimes accompanied by chills, which are probably of a nervous origin. A latent form of syphilis causing a pre-existing chronic endometritis is supposed to be its cause. (From Dr. Macphatter's paper in the New York Medical Journal, March 23, 1901.)

**FIBROID TUMOURS, OPERATIVE TREATMENT OF**

(By Dr. E. Malins.) The indications for operation upon such cases present themselves generally in a definite form, and may be received as reliable reasons for interference. I am well aware that the majority of fibroid tumours call for no active surgical interference. Social position becomes to some extent a guide in the selection of cases for operation. Excessive and persistent hemorrhage undoubtedly is a ground for interference—hemorrhage which has resisted for a length of time rest, hot douches, and therapeutics of tried and of unknown efficacy. I have little confidence in these so-called hæmostatics. The continued use of ergot is lauded as a standard prop by some in such cases—it is a broken reed to lean on, and often fails when most trusted for help. Nothing that I know of medically admits of a safe prediction as to results in cases of this kind. We know that oftentimes the bleeding is erratic. We learn, too, that the drug last administered at a venture often gets the credit—the outcome of credulity which is met by a specious and hollow success. Occasionally the pain and discomfort due to pressure symptoms entail a consideration of interference. Rapid growth of the tumour is a first indication for the review of surgical treatment. But even here we often meet with difficulties in the formation of a decisive opinion. When the rate of growth is unquestionable, and particularly if there are signs

of associated complications, our path becomes more clear and our duty imperative. There is less need for conservative surgery when the functions of the uterus and ovary have fulfilled their destiny, but there is great need of help when signs of degenerative changes occur or complications threaten to gain the mastery of the patient. (Lancet, December 9, 1900.)

### LABOUR, DIFFICULT, DUE TO THE SHOULDERS.

(By Dr. McKerron, *Scottish Med. and Surg. Journ.*, Dec. 1900). The treatment is, in the first place, to press the anterior shoulder downwards and backwards, so that the bisacromial diameter of the child will occupy the wide transverse diameter of the brim. This, combined with traction on the head, will usually cause the shoulders to engage. If this fails, the index finger or a blunt hook may be introduced into the axilla, or occasionally it may be possible to bring down an arm. Bonnaire (*Presse Medicale*, April, 1900) has recently suggested division of one or both clavicles with a pair of sharp scissors. If the shoulders are impacted in the cavity of the pelvis, which is more common, traction in the axilla may succeed, or the anterior shoulder may be pushed up above the symphysis, and the posterior pulled down. Cleidotomy, or division of the clavicles, can hardly be performed on a living child. Obstruction from the size of the shoulders usually means excessive development of the fœtus, due to abnormal prolongation of pregnancy. The question of inducing labour in these cases is a matter for careful consideration, and may, perhaps, be justifiable if the child is found to be unusually large by abdominal palpation. (From Dr. Arnold W. W. Lea's abstract in the Medical Chronicle, January, 1901.)

### MENORRHAGIA IN YOUNG GIRLS.

Dr. W. Gill Wylie said that one of the chief points in the consideration of the significance of hemorrhage, he thought, had been overlooked. Frequently the general health of a young girl was badly affected, and there was no menstruation; that was normal; an anæmic, weak girl should not be submitted to this drain. Again, it was a fact that if a girl was weak, anæmic, and imperfectly developed, and she menstruated, it was not a normal menstruation. Menstruation was really hemorrhage, so much so that it was often necessary to stop a normal flow. This point he brought out in a manual many years ago; before that time it had hardly been mentioned in literature. If a woman was weak and anæmic she should not menstruate. In anæmic women, especially in virgins, there was imperfect



development ; then the weak, anæmic, and feeble organs became a prey to disease ; the endometrium became abnormal from catarrhal affections, resulting in excessive menstruation. A strong, vigorous girl might menstruate six or eight days and yet this might be a normal menstruation ; in a weak girl this would not be true. Small fibroid tumours might exist for a long time without causing any hemorrhage ; but when the growth impinged upon the endometrium it caused an increased vascularity and so hemorrhage. (From report of New York Medical Association, Medical Record, February 25, 1901.)

### **METRORRHAGIA IN PELVIC INFLAMMATORY PROCESSES.**

Dr. E. B. Cragin said that the three factors concerned are the endometrium, the muscle-wall of the uterus, and the blood-vessels of the organ. Acute endometritis is usually of bacterial origin, while chronic endometritis, as a rule, follows upon acute congestion and is not the result of acute endometritis. As to the muscle-wall, if the contractions are normal and unimpeded, the circulation of the uterus and the loss of blood from the organ are normal. If not, these are increased. The two conditions which most commonly interfere are (1) tumours of the uterine wall, and (2) chronic interstitial inflammation, causing atrophy of the muscle-wall. In acute endometritis rest is the most essential thing. In chronic, curettage is usually the best treatment. In cases in which repeated curetting fails to check the hemorrhage, the removal of the uterus may be justifiable. (From report of New York Medical Association, Medical News, March 9, 1901.)

### **METRORRHAGIA, PERSISTENT.**

Dr. Inglis Parsons speaks of cases in which even under an anæsthetic we fail to find anything wrong in the pelvis, and when we dilate the uterus there is nothing apparent to account for so prominent a symptom. Under these conditions the indication is to use the curette. If the endometrium which is scraped off is found to be thickened the curetting does good and the metrorrhagia usually stops, at any rate for some months. On the other hand, in a certain number of cases we find very little thickening of the endometrium, and then the metrorrhagia will often persist and perhaps be worse after the curetting than before. In such cases I have been able to stop the hemorrhage permanently by the use of the constant current. I wish to advocate this method of treatment in preference to the risk and mutilation involved by hysterectomy. (Lancet, February 23, 1901.)

**OSTEOMALACIA.**

Dr. W. E. Fothergill thus concludes his paper :—The consensus of present opinion as to the management of osteomalacia may be briefly indicated. (1) In men and in non-pregnant women, internal medication should always be patiently tried, together with hygienic and dietetic precautions. In females, if the disease continues to progress, double oöphorectomy may be performed, and followed up by continued medication. (2) In early pregnancy, induce abortion and then treat as above. If a living child is specially desired, and the symptoms are slight, pregnancy may be allowed to continue, medical treatment being continued throughout. (3) In late pregnancy it is necessary to decide whether or not a living child can be born at term *per vias naturales*. If not, a choice must be made between the induction of premature labour and a pre-arranged Cæsarean section, as embryulcia should not be contemplated. (4) During labour, the child, if living, must be delivered alive by the method indicated by the circumstances of the case. If the abdomen is opened, the ovaries are removed, whether the uterus is also removed or not. Embryulcia is permissible only when the child is dead. Medical treatment must be continued after operation, as relapses frequently occur. (Edinburgh Medical Journal, 1901, p. 369.)

**PELVIS, OPERATIVE PROCEDURE IN CONTRACTED.**

(By Dr. J. Whitbridge Williams.) Recent statistics show that the mortality of Cæsarean section, when performed upon uninfected cases by competent operators, is less than five per cent. When performed on infected cases, the results are disastrous. Convalescence seems to be more rapid after Cæsarean section than after symphysiotomy, patients being able to walk on the average three weeks after undergoing the former operation, while after the latter, on the average, thirteen weeks elapsed before they could walk with any degree of comfort. The ability to walk after symphysiotomy is directly proportionate to the degree of pelvic contraction, those having least pelvic deformity being able to walk soonest. After Cæsarean section women could return to hard work in four or five weeks, but not until four or five months after symphysiotomy. Pinard reports the foetal mortality after symphysiotomy at 13 per cent., and Bar at 9.39 per cent. The infant mortality after the Cæsarean operation is practically nil, a point greatly in favour of this operation. In view of the good results following Cæsarean section, he thinks the former indication of a conjugate vera not over  $5\frac{1}{2}$  c.m. should be extended to  $6\frac{1}{2}$  c.m., provided the child is



alive. When the conjugate vera is 7 c.m., it is advisable to allow the patient to go into labour, and, if the head rapidly moulds, spontaneous delivery may occur, but when the head shows no signs of descending, Cæsarean section should be performed without attempting to deliver. Williams is of the opinion that where a woman is infected, or is so situated that no one is at hand competent to perform Cæsarean section, craniotomy upon the living child is justifiable. With regard to the induction of premature labour in women with contracted pelvis, he considers that, in order to be efficacious, it must be performed six to eight weeks before the date of the expected confinement. Pinard and Charles report a foetal mortality of 33 and 36 per cent. respectively. (From abstract in Montreal Medical Journal, January, 1901.)

### PLACENTA PRÆVIA.

Very few groups of cases are so reported as to be capable of analysis on the basis of surgical intervention or not, but examination of the reported cases of placenta prævia show : (1) That the greatest mortality, both foetal and maternal, is obtained in cases of complete prævia. Depaul reports 25 central with a maternal mortality of 56 per cent., Jardine reports 12 complete with a maternal mortality of  $16\frac{2}{3}$  per cent. and a foetal mortality of  $66\frac{2}{3}$  per cent. (2) The second deduction from reported cases shows that in primiparæ the firmness and resistance of the tissues render quick operative interference difficult. (3) A source of great danger is found in a rigid os uteri. Read reports 39 cases where the condition of the os was given as rigid. These showed a maternal mortality of 33 per cent., and a foetal mortality of 70 per cent. (4) In cases of contracted pelves the greatest death-rate is not obtained in the major degrees of contraction, but where there is disproportion between the size of the foetus and the size of the pelvis. (5) Malpositions of foetus requiring operative interference, and cases where the cord is prolapsed, show high mortalities. If we accept the foregoing deductions as correct it would seem that section, in preference to other operative interference, is indicated in : (1) Cases of complete prævia ; (2) cases of prævia in primiparæ when signs of foetal or maternal exhaustion are evident ; (3) when the condition of rigid os is present ; (4) where there is a history of previous operative delivery ; (5) in transverse positions and in cases of prolapsed cord, if the cord is not easily returnable. (From Dr. F. D. Donoghue's paper in the Boston Medical and Surgical Journal, December 6, 1900.)

**PLACENTA, TREATMENT OF.**

Dr. Smyly thought there was a distinction between Credé's method and the Dublin method. The fault of Credé's method was that it was too active, and if they expelled the placenta too soon they might leave portions behind leading to post-partum hemorrhage and sub-involution. In his work on midwifery, Professor Spiegelberg, who had seen both methods practised by the people responsible for them, Credé's by Credé, and the Dublin method when he visited Dublin, said the Dublin method was superior, because it was not so active, as it waited till the placenta had been expelled from the uterus, and it then expelled it from the vagina. Another point likely to be lost to the Dublin school was the method of preserving the perineum, generally known as von Ritgen's method, which undoubtedly originated in Dublin. (Dublin Journal of Medical Science, December, 1900.)

**PREGNANCY, TOXÆMIAS OF.**

Dr. S. Marx emphasizes the following conclusions : (1) Toxæmia of pregnancy is a complex condition depending on more than one factor. (2) Many women go to term with albuminuria, without symptoms referable to a toxæmia. When such symptoms arise they are not caused by the albumin present, but by faulty urea secretion. (3) In the most desperate and malignant cases there is found neither albumin nor casts. (4) Urea is always found markedly diminished in the so-called true toxæmias of pregnancy, or urinæmias. (5) Finally, I make strong plea for a regular and methodical course of urea estimation in all cases of toxæmia, or for the relegation to secondary importance of the time-honoured examination for albumin. (6) Progressive diminution of urea excretion, with or without albuminuria, is the sole indication for the induction of premature labour, which is especially indicated when conscientious medical treatment fails. (Medical Record, April 20, 1901.)

**PREGNANCY, TREATMENT OF VOMITING OF.**

M. F. Monin (*Lyon Médical*, Jan. 27, 1901) has had occasion to employ bicarbonate of sodium twenty-five or thirty times, and almost always with the greatest satisfaction. It is necessary to overcome constipation, which is so frequently observed in women, and especially in pregnant women, and which favours the appearance and duration of digestive troubles. The writer believes that the vomiting of pregnancy is attributable to a disorder of the gastric secretions. The morning sickness in



particular appears to show that the stomach of certain pregnant women secretes in a continuous and not in an intermittent fashion. Consequently, this treatment has been instituted, bicarbonate of sodium being given in large doses during the time when the stomach is empty, and the results have been most happy. Five cachets of gr. ii. have been given during the day to begin with, and these are increased in quantity as necessity indicates. (Medical Record, March 9, 1901.)

### PUERPERAL ECLAMPSIA, SALINE INFUSIONS IN.

Twenty-three cases treated by this method have now been recorded by me, and I think they are sufficient in number to enable one to form an estimate of the efficacy of the treatment. Of the twelve cases given by me before the Edinburgh Obstetrical Society last year, four were fatal. The first one treated was fatal, but it ought not to be included in the series, as only normal saline solution was used, and, besides, the woman was moribund when admitted. Of the last eleven recorded, two have died, but one of the deaths was due to a perforating duodenal ulcer on the seventh day after her eclampsia had been cured. Even if we take the death-rate of six in twenty-three, looking at the nature of the cases, I think it will compare favourably with the rate of any other method of treatment. If we deduct the two cases, which in all fairness should come off, we have four deaths in twenty-two. One of my critics has been good enough to say that some of my cases were slight, therefore the results are nothing wonderful. I am quite willing to admit that two or three of them appear to have been slight, but I would like to point out that these cases were ones I happened to get very early. Many of the cases only came to us after they had been having fits for many hours, and I know that some of them were sent to us after a consultation had been held and a hopeless prognosis given. In hospital work we have to deal with the very worst cases, and the majority of these were bad enough to test any form of treatment. Three years ago we had eight cases in the hospital, and lost five of them. These five were treated in the usual way—one with morphia entirely, and one with veratrum viride, and the others with chloral and bromide, &c. The three saved were the only ones treated by saline infusion. It may be a coincidence, but it is a remarkable one. I think I may fairly claim to have established that this method of treatment is worthy of a trial. There is no risk in giving these large infusions. Two or three pints can easily be given under the breast by means of the apparatus Messrs. Gardner have made up for me. I have never seen any bad effects

locally, although I must have given at least two hundred. Of course, rigid aseptic precautions are necessary. (From Dr. Jardine's paper in the Glasgow Medical Journal, October, 1900.)

### SPINAL ANÆSTHESIA IN OBSTETRICS.

(The following is taken from Dr. Marx's paper.) Now as to my labours, over forty in number : Motor disturbances of the uterus we have never seen, for the uterine contractions go on regularly, and under their influence the os dilates as under normal conditions ; and all this time while the patient has some indescribable sensation, but not one of pain, she is delivering herself as naturally as if her symptom of pain was not masked. Under these conditions we only recognise the powerful contractions either by placing the hand on the abdomen, or by exposing the protruding and bulging bag of water or the advancing head. Reflex action of the abdominal muscles was found present only when incomplete anæsthesia existed, and was then accounted for by the presence of pain. But when anæsthesia was complete, spontaneous bearing down did not occur ; voluntarily the muscles were not called into play ; only when told to do so was the patient capable of bringing her abdominal muscles into play, and then as powerfully as under normal conditions. This I have always encouraged to further the *vis a tergo* in normal labours. I have done some extremely difficult operations under spinal anæsthesia ; in fact, all forms of obstetric operations were undertaken, except symphysiotomy and Cæsarean section. Explorations, versions, forceps extraction, placental removal were done, not with as great ease as under chloroform, but with much greater facility than in a non-narcotised (chloroform) woman. It was never necessary to finish any operation under a general anæsthetic when commenced with medullary narcosis. Relaxation of the uterus or even spasm of a severe grade was never encountered, nor was there a greater disposition to bleed than under ordinary conditions. We have never met involuntary evacuation of bowel or bladder such as occasionally occurs in surgical practice, even as often happens when ether or chloroform is administered, or as occasionally happens during labour under normal conditions. In all cases where cocaine was employed we obtained the happiest results. In no case were any bad symptoms noted, except in one case, where, by mistake, with the cocaine one-sixth grain of morphine was administered. The patient developed all the symptoms of a grave opium poisoning, and required pretty heroic measures to bring her out of her soporous condition. (Boston Medical and Surgical Journal, January 3, 1901.)



**SUPRARENAL MEDULLA.**

From experiments made in the Edinburgh laboratory by Drs. J. D. Sligh, J. Malcolm, and W. E. Frost, I feel justified in suggesting that a trial should be made of the extract of suprarenal medulla in all cases in which it is desired to strengthen or to induce uterine contraction. The observations which we have hitherto made show that this extract has a far greater power in causing contraction of the muscular tissue of the uterus, whether pregnant or non-pregnant, than any other drug having the same reputed action, and this whether the extract be applied directly to the muscular tissue or be introduced into the circulation. Since the active principle is unaffected by the gastric juice, it can be given by the mouth, but in post-partum cases it would doubtless be more advantageous to inject it directly into the uterine cavity, where it would not only tend to produce immediate contraction of the uterine musculature, but also of the uterine arterioles, and thus more effectually control accompanying hemorrhage. The solution which I would recommend to be used is an infusion of dry medullary substance, 30 grs. to the pint of water. This should be sterilised by boiling, and injected whilst still fairly hot. Such a solution is a powerful styptic, and its value in this respect may be still further increased by the addition of 60 grs. of calcium chloride. (From Prof. Schafer's paper in the *British Medical Journal*, April 27, 1901.)

**SYMPHYSIOTOMY.**

I take first the case in which the patient has gone to full term without being examined during pregnancy. It is found that the foetal head cannot be pressed into the pelvis, that its equator is above the brim. The conjugate can be enlarged by symphysiotomy by half an inch. If then the diameter of the head opposed to the conjugate exceeds it by less than half an inch, it can be delivered by symphysiotomy. If it exceeds it by more than this, symphysiotomy will be useless; either delivery will be impossible, or it will only be possible by excessive separation of the bones, leading to injury to the sacroiliac joint, and to the urethra, and possibly bladder. If the disproportion between the pelvic brim and the foetal head is only trifling, delivery can probably be effected by turning in a flat pelvis, or by forceps in a small round pelvis. The aim of the accoucheur should be to find out as early as possible the existence of disproportion too great to allow of delivery by forceps or version. There may be cases in which the accoucheur is doubtful whether or not delivery by forceps or version is possible; and in such cases it may be proper to test the

question by a brief trial of these means. If the head cannot descend easily into the brim, the membranes will probably rupture early, and the liquor amnii escape. It seems to me good practice to prevent this by dilating the cervix with Champetier's bag. This not only dilates the cervix, but prevents the escape of liquor amnii, and so protects the child from pressure. (From Dr. Herman's paper in the Transactions Obstetrical Society, vol. xlii.)

### UMBILICAL CORD, PROLAPSE OF THE.

M. Commandeur (*Province médicale*, Nov. 10, 1900) says that this accident causes a high foetal mortality, about 30 per cent. The mechanism of the accident is not always the same. The cord may fall between the head and the pelvic wall when the head is engaged; or between the head or another foetal part and the contracted or retracted ring of Baudl, when, the head not being engaged, an extensive bag of amniotic fluid fills the lower segment of the uterus, keeping the head away therefrom. The three principal means of attempting to save the child are: (1) Manual reduction, which is difficult and leads to rupture of the membranes—it is impossible when the bag of membranes remains tight; (2) rapid manual dilatation followed by extraction—this is the operation of choice when the cervix and lower segment of the uterus are easily dilatable; (3) the use of the bags of Champetier de Ribes applied between the membranes and the uterine wall, when the cervix and inferior segment are not sufficiently prepared for rapid dilatation. This method hastens the delivery and mechanically reduces the cord. (New York Medical Journal, December 8, 1900.)

### UTERINE CANCER, CARBIDE OF CALCIUM IN.

Grouzdey (*La Gynécologie*, 1900, No. 4) adds his testimony as to the value of this preparation in cases of incurable carcinoma. He applies it to the diseased area in gauze bags, protecting the vagina with tampons. He finds that healthy granulations are formed, the foul discharges and hemorrhages are arrested, while pain is relieved and the general condition is much improved. The good effects persist for a week, when a fresh application should be made. He has observed no ill results, but adds the caution that the surface of the vagina should be thoroughly dried before the carbide is introduced. The writer has also obtained good results in treating in a similar manner benign erosion and ulcerations of the portio vaginalis. (American Journal of the Medical Sciences, March, 1901.)



**UTERINE CANCER.**

Dr. Lewers speaks of the after-results of vaginal hysterectomy. The conclusions arrived at from a consideration of the forty consecutive cases reported in the paper were :—(1) That in a certain proportion of cases patients suffering from cancer of the uterus might be relieved by operation for periods of many years ; in some cases for so long a time—seven years and upwards—that there seemed a probability that the relief might be permanent. (2) That the proportion of cases in which this result could be expected must remain very small so long as cases generally sought advice at a late stage only of the disease, and that consequently (3) the great desideratum was early diagnosis. Especially important was the more general recognition of the gravity of bleeding recurring after the menopause, or, at an earlier period of life, between the menstrual periods. It was almost equally important to bear in mind that patients suffering from cancer of the uterus might, and generally did, for a relatively long period, look quite well ; they might be well nourished, and not infrequently excessively fat, and as regards the facial aspect appear to be in perfect health. (*British Medical Journal*, November 17, 1900.)

**UTERINE CARCINOMA, INOPERABLE.**

(By Desider Stapler, *Wien. med. Woch.*, No. 4, 1901.) In the author's opinion, the best procedure is the thorough scraping away of the growth with a sharp curette, and then, after taking plenty of time to stop hemorrhage by hot injection or ice-water or pressure, to thoroughly cauterise the surface which remains with fuming nitric acid or chloride of zinc (30 per cent. solution). The nitric acid is applied on small sticks wrapped in cotton wool, only two or three drops of nitric acid being taken up at a time. In the case of large ulcerating cavities, packing with wool pledgets, each with two or three drops of nitric acid on, may be employed, the vagina being protected by gauze packing; such a packing must be removed in from one to two days. Another method recommended is to scrape away all growth, then stop bleeding, and powder iodoform thickly over the surface; next to rub the surface with a stick of silver nitrate, making a paste with the iodoform. A small amount of nitric acid is developed in the nascent state from this paste, and has a cauterising action. Granulations of a healthy character soon appear under the crust which the paste eventually forms. The last method of treatment is that of steam vaporisation by means of Pincus' apparatus. The steam is applied through a specially

constructed speculum after scraping away the growth. One-half to one or two minutes is the time suitable for the continuance of the vaporisation, and the temperature of the steam is about 105 deg. to 110 deg. C. By any of these means the author claims that the discharges are lessened and disinfected, and in many instances recurrence does not take place for a long time—eighteen months, for instance, in one case mentioned. (From abstract in *Treatment*, May, 1901.)

## UTERINE FIBROIDS, COMPLICATIONS OF.

Freund (*Centralblatt für Gynäkologie*, 1900, No. 40) calls attention to the significance of a varicose condition of the veins of the pelvis and lower extremities in connection with fibroid tumours of the uterus. Not only is there considerable danger of hemorrhage during and after operation from distension of the pelvic veins, but pulmonary embolism is a possible result. The writer reports two fatal cases in which the patients complained soon after operation of severe pelvic pains, with pressure upon the bladder and rectum, followed by a sudden relief of the symptoms, but with restlessness, rapid pulse, and collapse, the temperature remaining normal. In both instances a large hæmatoma was found in the broad ligament, which had exerted so much traction upon the stumps that the ligatures had slipped. The hemorrhage was due to the puncture of large veins below the points at which the ligatures were tied. The same writer describes degenerative changes in fibroids due to sclerosis of the peripheral arteries and venous thrombosis, without purulent foci or evidences of septic micro-organisms. The symptoms due to this condition are those of auto-intoxication, but are quite different from the sapræmic or septic poisoning referable to suppuration in the growth. In the case reported the diagnosis before operation was strengthened by the presence of acetone in the urine. (*American Journal of the Medical Sciences*, April, 1901.)

## UTERUS, CHRONIC INVERSION OF THE.

Spinelli (Naples) described a new operation for the reduction of a chronic inversion of the uterus. After disinfecting the vagina, he seizes the inverted uterus and draws it down as far as it will come. He then makes a vertical incision through the anterior face of the cervix and body of the uterus, and opens the anterior *cul de sac* by a transverse incision which crosses the uterine incision. He thus obtains two lateral flaps, which, when turned back, provide a large opening, through which he is enabled to seize and reduce the fundus by traction combined with pressure



from below upwards. When the inversion has been reduced, he sutures the incision in the uterus, replaces the organ in the abdomen, and closes the opening in the anterior fornix. He finds the operation inoffensive, conservative, and efficacious, and moreover one which does not leave the patient with the retro-deviation which so frequently results after posterior colporrhysterotomy. (*British Journal of Gynæcology*, November, 1900.)

## UTERUS, PROLAPSE OF.

Our advance in recent years appears to have been chiefly in the following directions: (1) *In prophylaxis*.—The importance of a proper management of labour so as to prevent injury to the pelvic floor and sub-involution of the uterus and its ligaments, as well as pelvic peritonitis, is generally recognised, and in this connection one must again raise a warning voice against the early rupture of the membrane and the improper use of the forceps, especially their application before the os is fully dilated. The proper management of the third stage and of the puerperium are almost of equal importance. (2) As regards operative treatment, success appears to depend more upon an intelligent appreciation of certain well-defined principles than upon any particular technique. The first of these principles is the maintenance of the uterus in anteversion, and the second the restoration of the pelvic floor so that the posterior again becomes the supporting triangle and the vaginal slit again forms an acute angle with the long axis of the uterus. The first of these can be obtained by vaginal or abdominal fixation of the uterus or by Alexander's operation. I do not say that all these methods are equally good, or that any of them are ideally perfect, but as far as efficiency is concerned they all secure the desired end. As regards colpoperineorrhaphy, I may say the same. We now possess several excellent methods of performing this operation, all of which are more or less successful according to the condition of the levator ani muscles. Other minor points are: narrowing of the vagina, amputation of the cervix, and freeing of the uterus from adhesions. I have performed extirpation of the prolapsed uterus three times, combined with anterior and posterior colporrhaphy and perineorrhaphy, and with success; but the method does not appear to me to possess any advantages over the more conservative procedures. (From Dr. W. J. Smyly's paper in the *Medical Press and Circular*, January 23, 1901.)

## UTERUS, POSTERIOR DISPLACEMENTS OF.

Shortening of the round ligaments, or Alexander's operation is, after all, I believe, the best operation for uncomplicated backward displacement. It has its difficulties for the operator, but

all of these can be overcome. There are difficulties of selection, because the diagnosis cannot be confirmed by intra-peritoneal touch, as in ventro and vagino-fixation. There are difficulties of operative-finding, but these diminish with practice, and there are difficulties of operative-ending, which used to trouble me, but which now I find have entirely disappeared, with stricter asepsis and the use of fine "ophthalmic" silk as a buried suture to entirely close the wound in the external oblique, and to sew the upper end of the ligament to the under surface of the aponeurosis. If the operation be well chosen and done in this way the result is perfect, and I know few operations that give both surgeon and patient more unalloyed and permanent satisfaction. Several of my cases were done many years ago, and I have watched pregnancy come and go afterwards without any difficulty or recurrence of displacement, while the occasional late suppuration and hernia, which spoiled some of my earlier results, and made me temporarily give up the operation, appear to be altogether avoided by the method of closure I have mentioned. (From Dr. J. W. Taylor's paper in the Medical Press and Circular, May 8, 1901.)

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# Medicine.

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## GENERAL MEDICINE AND THERAPEUTICS.

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### ART. I.—ON THE PROGNOSIS OF ACUTE DISEASE.

By R. HINGSTON FOX, M.D., M.R.C.P. Lond.,  
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[From Dr. Hingston Fox's paper:]

From the clinical standpoint, we might call those diseases which naturally tend to recovery, benign, and those which progress indefinitely, malignant. In seeking to learn on what recovery depends in a given case, we must first ask whether the disorder can be allotted to one of these classes, or, in other words, what is its natural termination. In many instances, this is easily decided, as in the infective diseases I would be disposed to put all catarrhal diseases in the benign class, and all inflammations of organs due to a sporadic cause, such as accident or chill; but if the inflammation is due to a constant cause, such as pre-existing tubercle, or cancer, or a poison circulating in the blood, it will generally belong to the opposite class. There will, however, be many diseases which cannot certainly be allotted to either class, but which sometimes belong to one and sometimes to the other, according to the reaction of the individual subject.

*Benign acute disease.*—Let us take first cases of benign acute disease, in which the natural tendency is towards recovery, and in which our efforts are directed to keep the patient alive until the disease has subsided. Life depends more obviously upon the maintenance of the heart's action than upon that of any other organ, and it is sometimes said that a man lives as long as his left ventricle. At the finish, when the crisis of the struggle for life comes in a severe and dangerous case, the heart's action is certainly the chief criterion of his condition and chances. But surely we must go behind the heart, and far less must we be satisfied with the phrase, "failure of heart's action," now so often used by the public in relation to the cause of death. For on what does the heart function depend? Upon the integrity of heart muscle, and of nerve centres. And these depend upon

nutrition. So that we get down to the nutritive condition, to the state of blood and tissues, as the really dominant factor in the maintenance of life. I am leaving aside questions of mechanical interference with the circulation which complicate the problem in many cases. I am supposing that we are face to face with a severe case of typhoid fever in the fourth week, or of acute pneumonia about the seventh or eighth day; there is a high temperature, a rapid pulse of low tension, a dry tongue inclining to a brown hue, some delirium and insomnia. But there are, we will suppose, no symptoms threatening life, in lung, or bowel, or elsewhere, besides the asthenia, and our query is, will this patient live through the attack? If he survives another two or three days, in all probability he will recover. The survival apparently depends on the strength of the heart. Essentially, as I have shown, it depends upon nutrition. And nutrition brings us to digestion and assimilation, by which alone the body can be nourished. So that it may be truer to say in some of these fever cases, that "a man lives as long as his stomach"; and digestive power is found to be a principal factor in the recovery from acute disease. It is singular that this lesson should be learned so late in the world's history as has been the case; that it should be reserved for Graves to write as his own epitaph, "He fed fevers," and for Gardiner to follow with the pregnant motto, "Lacte non vino."

*Malignant acute disease.*—Let us now consider cases of acute disease which do badly from the outset, and progress steadily until life is destroyed. As simple examples of this class, we may take acute tuberculosis, and the acute form of ulcerative endocarditis. In the present state of our knowledge, neither of these diseases, when present in a well-developed form, admits of recovery. Such recovery is so exceptional, that it raises a suspicion as to the diagnosis. These diseases are malignant by their very nature.

But there are other disorders which, although benign in some subjects, are malignant in others. Examples of these are erysipelas in the old and feeble, and acute catarrhal pneumonia in debilitated persons. That this is so will not surprise us, since the entity which we call a disease is actually a resultant of several causes. There may be a *materies morbi*, a germ, toxine, or poison, introduced from without, but the phenomena of the disease, which in ordinary thought and parlance comprise the disease itself, are due of course to the reaction of the human body to the morbid cause. Such reaction varies greatly, and if it is bad, a benign disease may become malignant.

Let us take the latter class of disorders first, those in which the malignancy is due to fault on the part of the subject. A disease is acquired, whether by infection, as in scarlatina, or



whether it be an inflammatory disease, such as nephritis or meningitis, which, in the present state of our knowledge, we ascribe to a chill, or to nothing at all, and use the term idiopathic as a cloak for our ignorance. The reaction of the system to the disease is bad from the beginning; there is not the rapid favourable pyrexia, temperature running up 103 deg. or 104 deg., without great disturbance of the bodily sensations, which we learn to look upon with satisfaction. But there is, on the other hand, a low febrile state, with prostration of the bodily powers and a dulled sensorium. The patient is smitten, and instead of an elastic rebound, the stroke falls dead upon his weak organs and loaded tissues. The disease is not one that is necessarily or generally fatal, but the subject is at fault. Can we foresee this from the beginning? Probably not, but there should be signs from an early stage in the disorder. When the enforcement of physiological rest—a warm bed, good nursing, and regular liquid food, together with easy action of the emunctories—skin, bowels, and kidneys—when these bring in the course of two or three days no remission of symptoms, no revival of vital power, but, on the contrary, the pulse remains quick, the temperature remittent, and the manner either dull and depressed, or excited and sleepless—then there is reason for an ill result, even from a disease which usually runs a favourable course.

The diagnosis between benign and malignant forms of the same disease is then of great importance. The malignancy may depend in some cases upon the varying virulence of an infective disorder in different outbreaks, such a disease as scarlatina or even measles appearing sometimes in a severe form, and proving fatal to the healthy. But more commonly in the case of an ordinarily benign disorder, the malignancy is due to bad reaction on the part of the subject. But there are other cases in which the disorder itself shows a malignancy against which an apparently healthy body strives in vain. I have alluded to acute tuberculosis and other infective processes which end in death.

Let me repeat the chief features. An apparently healthy person is affected with progressive pyrexia of a malignant character, evoking a bad reaction from the outset, and early depressing the vital centres. Some local lesion on the skin or lung surface, or in the nerve sheaths, or fibrous tissues, appears after a time, but the case steadily proceeds to a fatal end, in the production of which the local lesion appears to take no appreciable part. In the prognosis of these difficult cases some rules which Sir Andrew Clark used to lay down are very useful. I give only the substance of them. What is the significance of the phenomena that are present in this case? Does your hypothesis when formed account for all the symptoms? In

such cases the hypothesis most readily formed as to the nature of the disease does not account for the severity of its effects, and we are led to think of some infection or malignant cause behind, which will make our prognosis unfavourable.

A true diagnosis is, then, the first condition of prognosis. We must answer the question, Have we here a well recognised disease? Does it naturally tend to recovery or to death? (is it benign or malignant?) Sometimes these queries are capable of a plain answer. The case is a typical one. At other times this is not so, and we must use caution in prognosis.—*Edinburgh Medical Journal*, March, 1901.

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## 2.—HEMORRHAGIC TYPHOID FEVER.

By AUGUSTUS A. ESHNER, M.D.,

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[From Drs. Eshner and Weisenberg's paper :]

While epistaxis is one of the most common symptoms of typhoid fever, and enterorrhagia is not an infrequent complication, generalised hemorrhage occurs but rarely. To cases attended with the last-named condition the designation hemorrhagic typhoid fever has been applied. The bleeding may take place from all parts of the body, beneath the skin, and into the mucous membranes, as well as the serous cavities. It may, in rare instances, represent the terminal stage of an attack of fulminant typhoid fever, although it generally occurs at the height or at a later stage in cases at first pursuing an ordinary course, or in cases of protracted duration. It has been observed also during a relapse. The bleeding generally first takes place from the nose. At the same time or shortly afterward blood escapes from the discoloured and spongy gums. Next, petechiæ appear in the skin covering the trunk and the extremities among the roseolæ, which become hemorrhagic only in part, if at all. In cases of especial severity extensive, deep-seated extravasations take place in the subcutaneous connective tissue even beneath the scalp. In not a few cases meningeal or cerebral hemorrhage occurs. More frequently intestinal hemorrhage takes place—at times in such abundance and in such rapid succession as to be the direct cause of death. Hemorrhage from the genito-urinary organs is less common. Occurring in pregnant women, abortion is invariable, and death may result in consequence of failure to control the hemorrhage.



Hæmoptysis is the least common variety of hemorrhage, resulting from infarction of the lung or from bleeding from the bronchial, tracheal, or laryngeal mucous membrane. The hemorrhage may further be complicated by gangrene or ulceration. The earlier and the more extensive the bleeding and the worse the general condition the more unfavourable is the prognosis. The complication is so uncommon that the report of two fatal cases that came under observation recently would seem justified. In one the bleeding was wide-spread, while in the other it seemed confined to the skin.

*Case 1.* A man, aged 39 years, a drinker. On the 28th day of the illness a rose-red eruption, consisting of elevated areas one-eighth inch in diameter, yielding a shot-like sensation to the finger and not disappearing on pressure, appeared on the legs just below the knees, in strikingly symmetrical distribution. At the same time bluish blotches of irregular shape, from one-eighth to one-quarter inch in diameter, not disappearing on pressure and palpable directly beneath the skin, appeared on the upper part of the chest and shoulders. The patient also began to pass blood repeatedly from the bladder, and incontinence of urine was noticed for the first time. Later in the day hemorrhage from the bowel was repeated thrice in the course of an hour. The hemorrhagic eruption had now extended all over the body, the areas being bluish in colour, irregular in shape, and varying from three-quarters to one and one-half inches in diameter. An extravasation of blood took place also into the cornea of the left eye. The condition of asthenia grew gradually more marked and coma more profound, until death took place on the seventh day after admission. Upon post-mortem examination the body was found covered with purpuric spots. The fatty layer of the abdomen presented a peculiar orange-yellow colour, and was the seat of extravasations of blood. The peritoneal cavity contained a considerable amount of free blood. The peritoneal surface of the stomach and the intestines, the mesentery, and all the remaining abdominal viscera, especially the bladder, as well as the chest wall and the pericardium, were the seat of hemorrhagic extravasations, varying from one-eighth inch to three inches in diameter. The pleural and pericardial sacs also contained blood. The myocardium was involved in parenchymatous degeneration. The lungs were intensely congested, and each contained a large infarct posteriorly. The spleen was enlarged and mushy. A Gruber-Widal test made from this organ yielded a positive reaction. The kidneys were intensely congested and the seat of parenchymatous degeneration. Their pelves and pyramids were filled with clots. The adrenal bodies, the pancreas, and the walls of the stomach and intestines were also the seat of hemorrhage. The liver was in a state of parenchymatous degeneration. The bladder was filled with an enormous blood clot, and its walls were constituted of one large blood clot. The intestines were congested throughout, and hemorrhage was most abundant at the ileo-cæcal valve and in the colon just beyond. The ileum was the seat of five ulcers in varying stages of development, being almost perforated and surrounded by a ring of dense connective tissue. The brain and its membranes were congested, but normal in structure.

*Case 2.* A labouring man, aged 28 years, addicted to alcoholic excess, was admitted in a state of delirium and restlessness. The number of red blood-corpuscles was normal, and a stained specimen of blood exhibited leucocytosis. On the 6th day after admission a peculiar, dark, rusty-red, papular eruption appeared on the chest and the abdomen, the areas being variable in size, averaging one-eighth inch in diameter and not disappearing on pressure. By the next day the rash covered the entire chest and abdomen, and had extended to the arms and legs. It preserved its previous character, although it was darker in colour. On examination of the blood a second time the number of red corpuscles was found to be more than 6,000,000, and the number of colourless cells 17,600 per cubic millimetre. Malarial plasmodia were not present. The urine now contained albumin and also granular and bloody tube-casts. The patient became comatose and gradually weaker, and death ensued on the ninth day after admission. Post-mortem examination revealed typical intestinal lesions of typhoid fever, namely, enlargement of the spleen and ulceration of the ileum.

The question may fairly be raised whether the hemorrhagic character in these cases is in any way related to the primary disease. Doubt at once arises from the fact that the complication is so rare, and, further, that it is occasionally observed in connection with other infectious diseases, as well as independently at times. The thought naturally suggests itself that we may have to do with a hemorrhagic purpura occurring in the course of and perhaps predisposed to by the typhoid fever; but even this does not help us greatly, as we are as yet uninformed as to the nature of purpura and as to its etiology and associations. — *American Journal of the Medical Sciences*, March, 1901.

### 3.—ON THE SPREAD OF ENTERIC FEVER DURING THE SOUTH AFRICAN WAR.

By R. SCOT SKIRVING, M.B.,

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[Dr. Skirving gives his experiences as obtained in South Africa. The following is taken from his observations on prevention:]

(1) *The disposal of feces and urine.*—With regard to drainage in its elaborate sense, I have nothing to say; but with regard to the immediate disposal of excrement, one cannot, I think, be too insistent in either covering it up or disinfecting it. The



Boers, who are a dirty folk, took little sanitary precautions. They defecated pretty well anywhere about, short, I suppose, of their tents. Their laagars stank horribly, and they left their encampments in a filthy condition. The British, on the other hand, took care and pride in filling up their latrines and leaving their camping grounds in a clean, orderly, and stenchless condition. The insanitary habits of our enemy seemed to do them no harm, for although they did suffer from enteric fever, I am satisfied that it was to a much less extent than we did. They seem, unhappily, to possess a kind of immunity to it. Our latrines were for the most part open trenches, which were filled in as they became full or on shifting camp. I think that every man using a latrine should be obliged to imitate a certain tidy domestic animal, and cover up his excrement with earth at the time of evacuation. In some stationary camps empty paint or oil drums were used to defecate into, and then covered with a lid. This was an admirable plan, and shut out many a hungry fly. In camps with stationary hospitals, where large numbers of enteric cases were congested, special precautions were taken with the excreta of typhoids and dysenteries. Some efforts at immediate disinfection were carried out, and the defecta were at once buried in a special trench. No pains, in my opinion, should be spared in the immediate disinfection and burial of such dangerous matter. In Pretoria, at one of the hospitals, I read that a large tank is set on a furnace, and is partially filled with some strong fluid disinfectant, which is kept boiling. Into it the excreta is emptied at once, and in this unsavoury pot the bacilli perish. On the veldt, on a march, patients suffering from enteric and dysentery must often defecate in the open, and thus spread infection. I remember once, with a sick convoy, picking my way among the stools passed during the night close to the buck-waggons on which the sick were travelling. You verily could recognise the two distinct brands of stool (enteric and dysenteric) as they lay, yellow or blood-stained, in the morning sunlight. With this careful disposal of excreta, I urge also the burying of dead animals, which, near large camps, the authorities very faithfully tried to carry out. In short, everything which diminishes the conditions which encourage the multiplication of flies and the bacillary infection of wind-driven dust should be attended to.

(2) *Water supply*.—Of the greater questions, such as a clean catchment area, freedom from gross filth, avoidance of dams and creeks visibly foul, I need say nothing. In South Africa, as in New South Wales, the water supply over large areas at certain seasons of the year is uncertain, and dams and streams have to be carefully inquired after and located when planning out a march. I wish here to discuss three points only in

connection with drinking water : (a) Can the soldier ever be taught, thirsty as he is, that he must often find it more to his advantage to bear his thirst, horrible as it is, than to slake it at the first filthy, sewer-like stream he crosses? Will he learn dodges in avoiding thirst and making the most of what water he has in his bottle? Let him, if possible, begin the day with a good drink of fluid of some kind (water, tea, or coffee). Let him only take little sips from his bottle when on the march. To fill yourself up with liquid when actually working knocks all the endurance out of you—at least, so I think. It is good not to be weary in well-doing, so eternal preaching to the soldier on the value of clean drinking water and self-denial is worth continuing. But Tommy, good chap as he is, is hard to teach on such matters. (b) *Filters*.—I have carefully read much of the best literature on their value, and apparently the Pasteur-Chamberlain, and Berkfield are the most to be trusted; but to pin one's faith to their entire efficacy under the conditions of war in South Africa is to lean on a frail reed. On a march, or in the absence of better means of sterilisation, or as an adjuvant to heat, by all means let us use them, but do not let us forget the best method of all, which I leave last. (c) *Boiling*.—It is just this matter of boiling which is difficult, sometimes impossible, in a timberless country. On the march it was always a constant source of anxiety to make sure of getting enough fuel, old posts, mimosa bushes or cow dung, to cook the various meals of the day. Time and fuel were insufficient to permit the boiling of water to fill the men's water-bottles. A general of division once said to me in his most pontifical manner : "The boiling of water for large bodies of men is an impossibility." And so it is in a timberless country on a march, but it is not so in large stationary camps near the railway or a coal mine. Surely, if it diminishes the prevalence of enteric, it is cheaper to get fuel somehow, and take the precaution of boiling the water, than have the expense, the disability, and the wretchedness of a sickly camp! Surely some cunning worm-like apparatus for the rapid boiling of water with a small expenditure of fuel could be invented! When I spoke of getting coal, I did not forget that such luxuries, of course, cannot be allowed to stand in the way of the use of transport for purely military purposes.

(3) *Inoculation*.—This method of prevention is still on its first trial; but from what I have seen and heard of it I believe it has a useful future. The statistical results of the method as applied to the forces in South Africa as a whole are not yet published. Those in connection with Ladysmith go to show that inoculation exerts a considerable protective influence so far as contracting the disease is concerned; but if a patient



does get it—even although previously inoculated—the attack does not seem very appreciably modified. I have myself seen several fatal cases among those who had been properly inoculated.—*Australasian Medical Gazette*, January 25, 1901.

#### 4.—SCARLET FEVER.

By WILLIAM M. SOMERSET, M.D., New York,  
Formerly Resident Physician of the Willard Parker and  
Reception Hospitals.

[From Dr. Somerset's paper, which is based on 2,500 cases treated in the New York hospitals :]

Most of the complications among the patients followed along the lines one would expect, *i.e.* along the course of the original lesion. Albumin—frequently in traces only—accompanied the desquamation of the degenerated kidney epithelium in many cases. This albumin usually appeared during the first week, and cleared up in a week or ten days. When a true nephritis was present, it was generally acute with the usual run of symptoms. In cases going on to a chronic nephritis without acute onset, the kidneys or temperature often gave little or no indication. One set of symptoms was, however, pretty uniformly present in a sufficiently pronounced and persistent type to attract attention, *viz.*, disturbance of the stomach. The onset of anorexia, nausea, vomiting, distress after eating, in or about the fourth week of scarlet fever, in patients otherwise doing well, is a fairly reliable indication that they will pass the rest of their days with damaged kidneys. Usually, in the nephritis as well as in the otitis cases, a rise of temperature was the initial symptom. In otitis, the rise of temperature with the unmistakable evidences of pain made an early diagnosis possible, even in the smallest children. Early diarrhœa, if any, ran a mild and short course. Colpitis, when present at all, usually appeared during the second week, and, under cleanliness, disappeared within a week or ten days. A vaginal discharge in all respects resembling that of scarlatina occurs, of course, in young children in many other diseases. Its relative frequency here is sufficiently greater to entitle it to special mention.

Of course, if a scarlet fever patient during the third, fourth, or even fifth week, is stricken with diphtheria, shows Klebs-Löffler bacilli, and, as frequently occurs, goes on to croup, this is not a complication but a new disease. The liability to this attack, however, is so great, and the means by which the

contagium reaches the patient are so elusive, that post-scarlatinal diphtheria certainly seems to merit a place along with the complications. I should feel much less solicitude about a healthy child in a diphtheria ward, under all precautions, catching diphtheria, than about a scarlet fever patient in its own ward coming down, late, with something neither clinically nor bacteriologically distinguishable from diphtheria. In order of frequency, complications occurred as follows:—Acute degeneration of the kidney, 20 per cent.; adenitis (cervical) 18, otitis 8, nephritis 4, rheumatism (?) (affected joints) 4, and diffuse cellulitis (cervical) (generally fatal) 2. Myositis, endocarditis, pericarditis, bronchitis, ulcerative amygdalitis—all occurred in less than one per cent. In general, the liability to complication varied inversely as the age, rheumatism being the notable exception.

The skin lesion of scarlet fever is a true exudative inflammation, the separate foci presenting a more or less abundant peripheral erythema. The complication of this lesion, or the sequela of it, is the skin desquamation. This depends on the extent and intensity of the dermatitis. When the dermatitis has been severe, it may be well under way before the rash disappears. On the other hand, desquamation may not begin for two, or even three weeks, following the eruption. There may be a period, therefore, between eruption and desquamation, during which there is nothing, unless it is the history, to call attention to scarlet fever. The period from the onset of the disease to the completion of desquamation averaged between six and seven weeks. When I say completion, let me add that this is a very variable term, depending largely for its significance on the inspector and on the person preparing the case for inspection.

In regard to the diagnosis, I want to say, first, that there is, every once in a while, a case that nobody feels sure about. The drugs most liable to lead one astray are the bromides, iodides, iodoform, and, *par excellence*, diphtheria antitoxin. I have more than once seen a large and unquestionably intelligent staff of physicians woefully at variance as to whether a given rash was due to scarlet fever or antitoxin. One thing, however, is certain. Many cases which would have been promptly transferred as undoubtedly scarlet fever previously to the advent of antitoxin were considered more than doubtful after that remedy had acquired its reputation as a rash-producer. The diseases most likely to lead to confusion are german measles, variola, septicæmia, pyæmia and erythema scarlatiniforme. There is generally something either in history, symptoms, or lack of symptoms to help one out. I want to call attention particularly to variola. If a hemorrhagic small-pox



proves fatal before reaching the vesicular stage, it may very well be impossible to diagnosticate from a hemorrhagic scarlatina. A single hemorrhagic vesicle is, however, considered a sufficient means of distinguishing.

Concerning the treatment pursued in this series of cases: For the general welfare of the patients and for the avoidance of complications, rest in bed, and fluid, or semi-fluid, diet were insisted on for three weeks. Patients who feel as well as they ever did in four or five days or a week are apt to consider this rather heroic treatment. Its importance, however, in my opinion, cannot be over-estimated. For the scarlet fever itself, streptococcous antitoxin was tried for a short time; the immediate object being to test its effect on scarlatinal throats. The results obtained, however, did not seem to justify the continuance of its use. Frequent sponging with weak solutions of carbolic acid or bicarbonate of sodium was utilised for itching, painful tension, or other irritable conditions of the skin. The temperature was usually treated according to its effects on the patient. In cases where the distress was out of proportion to the rise of temperature, the relief afforded for the extreme restlessness, insomnia, or even delirium, by means of baths, could be very much augmented by the use of sedative drugs. Among the various remedies used, a pheno-bromide combination was most effective. It acted well both as a sedative and an antipyretic, and could be given to children in much larger and more effective doses without causing depression than any of the other sedatives. With temperatures unusually high or unusually persistent, baths and packs were largely used. A graduated bath was often given, beginning at the temperature of the patient, and reducing the temperature in from ten to fifteen minutes, twenty, thirty, or even forty degrees Fahrenheit. There is no particular danger of the patient taking cold, and there are very few, if any, contraindications to the reduction of a temperature of 106 deg. F. If the temperature of the bath must be very low—say 65 deg. F.—or even that of an ice pack, heat applied during the bath or pack to the arms and legs by wrapping them with hot blankets is an excellent aid in avoiding depression. Too much stress cannot be laid on the necessity for careful and skilful attention to the ears: early diagnosis, anticipation of rupture of the membrana tympani by early operative intervention, or proper enlargement of the opening when rupture has occurred, both to promote freer discharge and to secure better drainage; scrupulous and persistent cleanliness in all cases with discharging ears are all of the highest importance. Equally important is attention to every detail affecting the best interests of the kidneys.—*New York Medical Journal*, December 8, 1900.

## 5.—DIPHTHERIA.

By FRED GRANT BURROWS, A.M., M.D.,

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Contagious Diseases, Boston City Hospital, Boston, Mass.

The following is taken from Dr. Burrows's paper, which is based on 2,093 cases treated by the writer at the Boston City Hospital :]

In antitoxin we have a remedy which possesses the power of perfectly neutralising the toxin, and the recovery of the patient depends almost entirely on whether or not this remedy is administered early enough and in sufficient quantity. Unfortunately there is no way in which a definite knowledge of the amount of toxin absorbed by a given patient can be obtained. The number of the bacilli of diphtheria infecting a patient cannot be determined, and, moreover, the virulence of these bacilli varies within wide limits. The susceptibility of the individual is also an unknown quantity. It is, therefore, impossible to determine *a priori* the amount of antitoxin required in a given case. Here, as in many conditions, we have to rely on clinical observation. Laboratory experiments with the toxin of diphtheria are of but little help to the clinician, for in the laboratory known qualities are dealt with, while at the bedside the quantities are unknown and unknowable. The amount and character of the diphtheritic membrane, however, the quality and frequency of the pulse, the expression of the face and eyes, and the general appearance of the patient aid in forming an opinion. The amount of diphtheritic membrane alone is an imperfect guide ; and it is often necessary to continue giving antitoxin after this has disappeared, for evidences of toxæmia sometimes outlast the false membrane. At best it is impossible to determine accurately how much toxin has been absorbed and how much harm done before it has been neutralised ; and we, therefore, say that diphtheria is a treacherous disease, and always give a guarded prognosis. Clinical experience teaches, however, that the effects of antitoxin are only salutary, and there is no danger in giving too much. Clinical experience also teaches that the sooner the total amount of antitoxin required can be given the better. At the hospital, therefore, we give 4,000 unit doses, and repeat every four hours as long as may be necessary. In some exceptionally severe and late cases I have given 4,000 units every two hours, and in some cases 8,000 units every four hours. This method does not allow time for marked change in



the false membrane between the doses ; but, as already stated, the appearance of the membrane is but one of the many signs and symptoms to be considered. Some patients have thus received large quantities of antitoxin, and some moribund and apparently hopeless cases have been saved from death. Some of the recoveries that have attended this mode of treatment have been so wonderful that only those who have seen them can appreciate them ; and if the cases were reported here in detail the writer would probably be pronounced an irresponsible enthusiast. I believe, however, that the logical conclusions deducible from the statistics gathered from a study of this series of cases, and from comparison with other statistics of large numbers of cases studied before antitoxin was used, cannot be other than favourable to this mode of treatment. The death-rate from diphtheria in the Boston City Hospital for four years and one month previous to February 1, 1894, and for the last series of cases treated without antitoxin, was 45.3 per cent. The death-rate for this series of cases comprising those treated in the same institution during an entire year is 12.23 per cent.—that is, the death-rate has been lowered 33 per cent. Not all of the patients of this series of 1,962 cases received large amounts of antitoxin. The dose was not repeated unless necessary ; and there were 321 patients who received only one dose of 4,000 units or less during their illness.

In writing of diphtheria before antitoxin was used, Osler says: "No disease of temperate regions proves more fatal to nurses and physicians." Yet during the existence of the present contagious department of the Boston City Hospital, during all of which time antitoxin has been used, more than 7,000 cases of diphtheria have been treated, and more than 100 nurses, physicians, and employés of the department have contracted the disease, and there has not been a death among them. This series of cases has afforded an exceptional opportunity for studying the effects of antitoxin on early diphtheritic membrane. Many of the cases came under my personal observation, and I have repeatedly seen the false membrane extend and thicken even after three or four 4,000-unit doses of antitoxin had been given ; and then rapidly disappear when double that amount had been given, the patient making a rapid and uncomplicated recovery. The earlier cases of this series of hospital attachés were ill, on the average, much longer than the later ones ; for the dose of antitoxin is at present more than double what it was four years ago, and the intervals between the doses are much shorter.

\* The use of antitoxin is often followed by an eruption of urticaria or erythema multiforme, or a combination of the two, and rarely by pains in the joints. The arthralgia is not due

to inflammatory processes, and is usually of short duration, occurring more frequently in adults than in children. It is sometimes severe, and the use of morphine may be necessary in its treatment. These disturbances are never dangerous, and are usually of short duration. The value of alcoholic stimulation in diphtheria is so well known and generally accepted that it need not be dwelt upon here. I wish to emphasise the fact, however, that it should be used freely and frequently, and sufficiently early in the disease to ward off if possible the attacks of extreme weakness and collapse that are not uncommon in those patients whose tissues are undergoing degenerative changes. A rapid pulse is not a contraindication, and, generally speaking, the amount of toxæmia or evidence of degenerative changes are better guides in its use than the pulse. Considering the fact that the heart-muscle becomes flabby and shows more or less evidence of fatty degeneration early in the disease, the use of digitalis is indicated only in exceptional cases. Hot packs have been of especial value in those cases showing diminished urinary secretion, and drachm doses of a saturated solution of magnesium sulphate given every hour has proven of value as a diuretic in children. All intubed patients are fed by means of an œsophageal tube; and it has been found better to feed them in a partially sitting posture, supported by the nurse, as this method is less liable to give rise to inhalation pneumonia. In many cases, both of adults and of children, in which vomiting has been an annoying and persistent source of danger, rectal feedings have been of great assistance. The rectum in children is surprisingly tolerant of such treatment, provided only that the quantity given is not too large and care is exercised in its administration, and also that the feedings are given only once in six hours. Symptoms as they arise must be the guide for the further treatment. But the physician must constantly bear in mind the character and the extent of the degenerative changes possible in this disease, and exercise the utmost care and caution in allowing his patients to sit up and walk about. The heart is usually a reliable guide in this, and if it is not affected by a short time out of bed the time up each day may be gradually lengthened. The custom of allowing patients to sit quietly in a chair fifteen minutes on the first day out of bed is followed at the hospital, and they are not allowed to walk to and from the chair.

The statistics and clinical observations presented in this study seem to allow certain logical conclusions and obvious deductions that it is hoped will be of service to those who have to deal with this terrible yet fascinating disease. There can be no disease more terrible than one which, uncontrolled, is



capable of entering the home of the poor and the rich alike, and leaving the hearthstone desolate with only the bereaved parents where once the happy voices of many children were heard. There can be no disease more fascinating than such a one as this, over which science and the skill of the clinician have so nearly gained complete control. Yet during severe epidemics diphtheria formerly often claimed every child of a household as its victim. This series of cases, on the other hand, contains three and four and five members of some families, all of whom were discharged well. It is not an uncommon occurrence to have all of the children of a family under treatment in the hospital at the same time. It sometimes happens that one of the number dies ; and the fatality almost invariably occurs in the first member of the family to contract the disease, and the one from whom the others were infected. The poor and ignorant often fail to call a physician until it is too late for him to be of service to the child for whom he is called. But if the disease is diphtheria he often finds other children of the family also ill and their condition not recognised by the parents ; and he may be in time to save their lives. The value and importance of an early diagnosis and prompt treatment are thus emphasised almost daily in any large hospital devoted to the treatment of this disease.—*American Journal of the Medical Sciences*, February, 1901.

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## 6.—INFLUENZA.

[From a leading article in the *Medical Record* :]

Regarding the etiology of the grippe, authorities are agreed that it is of microbic origin, and the opinion prevails that to Pfeiffer belongs the honour of discovering and isolating the microbe. The most distinctive mark of typical severe influenza is its remarkably sudden onset, the only disease which resembles it in this respect being Asiatic cholera. At the same time on occasions its period of incubation varies largely, not only in individuals, but in different epidemics. Nevertheless, an unheralded attack termed by the Germans "Blitz-Katarrh" (lightning catarrh) is by far the most frequent warning of the presence of the influenza bacillus in the human subject. Other symptoms are : headache of a particularly racking type, frontal or orbital, often the precursor of delirium ; acute aches and pains in the back, not unlike those which are the forerunners of variola. The condition of the tongue is peculiar to the disease. According to Goodhart, it is generally tremulous, swollen, soft, and coated with a thick, creamy, dirty fur, accompanied usually

by a particularly offensive smell of the breath. The sweat, also, has an odour peculiar to this disease alone. Sometimes the coryzal symptoms are severe to a degree, and sometimes a dry and hard cough is an accompaniment. The temperature varies very considerably, occasionally running to a high point, but often rising to no appreciable extent. Rigors and drenching sweats are a not uncommon feature in the course of the complaint. Goodhart rightly lays especial stress upon the value in diagnosis of an extensive diffusion over the bases of the lungs of characteristic sharp, sticky râles. No specific for the malady is known, and the majority of physicians the world over appear to have come to the conclusion that each individual case should be treated on its merits, and that therapeutic remedies for influenza, *per se*, have but slight curative effects.

The German committee, which was formed after the epidemic of 1892, after obtaining the opinions of six thousand physicians in that country, stated in a general way that the use of drugs had been overdone in the treatment of influenza, and that a doctor's intelligent advice was of infinitely more benefit than quantities of medicine. Panic, brought on by the depressing influence of the affection, is responsible for this mode of treatment. The patient who thinks he is "in for an attack," should consult a physician without delay, and be guided by reason and clinical experience. Rest in bed, the shunning of drastic agents, and, above all, curbing the desire to leave the sick-room until the seeds of the disease are entirely eliminated from the system, are the only rational procedures. One great precaution to be observed in the treatment of influenza, as indeed in the treatment of all contagious diseases, is the thorough ventilation of the sick-room and of houses in which cases occur. Ill-ventilated buildings are eminently favourable to the spread of the malady, and any manner of living which tends to lower the vital powers will naturally render a person more prone to infection. But while influenza is a self-limited disease, and mild and uncomplicated cases may safely be left to the resources of nature, it is unfortunately true that the disease has to a greater extent than any other the faculty of attacking some weak spot in a person's armour; hence complications are numerous, and in virtue of the complications and sequelæ, often proves disastrous. The most common complications and sequelæ, it is superfluous to remark, are respiratory affections, of which pneumonia is the most fatal. A point to which attention has been frequently drawn within recent times is the baneful effect that influenza exerts upon the nervous system. In fact, taking it all in all, influenza as it presents now, is perhaps the most insidious and dangerous disease which attacks civilised



races. There are no known means of effectually guarding against its onslaughts. The best preventive measures are undoubtedly to strengthen and brace up the system by living an active, healthy life, and by avoiding as far as is possible the badly ventilated, over-heated rooms which are so prevalent throughout America. An editorial in the *Medical Record*, written at the time of the last epidemic in this country, emphasised the fact that the inhabitants of the United States appeared to be in an uncommon degree susceptible to the morbid influence of grippe, and the surmise was made that this proneness to contract the disease might be in part due to the highly-strung nervous organization of the native-born population. It may now be added that another, and possibly more potent cause is to be found in the pernicious habit of keeping the temperature of public offices and of houses unnecessarily high.—*Medical Record*, January 19, 1901.

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## 7.—THE TREATMENT OF PLAGUE WITH LUSTIG'S SERUM.

By N. H. CHOKSY, M.D. (Hon. Causa), Freiburg,  
 Special Assistant Health Officer-in-Charge, Arthur Road  
 Hospital, Bombay.

It is unnecessary to deal here with any detailed account of the preparation, as the same has been published in several medical journals. The observations with the application of the serum were begun in March, 1898, the object being to determine whether it possessed any value, and, if so, what, and whether its use was limited or could be extended to all cases. It may be noted in passing that this inquiry was approached in a spirit of wholesome scepticism, born of our knowledge of plague during the preceding two epidemics, and the high mortality and rapidly fatal termination that characterised it. Nor was there any eagerness or undue zeal displayed in either prematurely pushing its claims, or parading the early results. And it was only after long and patient observation, extending over a period of more than three months, that it was possible to formulate any opinion as to its value. The clinical effects of its action were so well marked that it left no doubt in our minds that it had some specific influence on the course of plague.

*The so-called "Selection" Method.*—It is customary whenever a new method of treatment has to be tested to make observations on patients that are fairly typical of the disease, and have fairly reasonable chances of recovery. It is not customary, on

the other hand, to test it in those that are in the throes of death, or that have crossed the Rubicon. It is also usual to exclude from such preliminary investigation all those disturbing factors that would in the ordinary course obscure the results. And as it was found from our previous experience that patients in whom the circulation had become so feeble as to show signs of impending heart failure, as well as those in whom heart failure had already commenced, and the pulse had become imperceptible at the wrist, were not amenable to any treatment that we could apply, it was decided to exclude them from these observations. So, also, did we exclude the latter-day cases—convalescents and semi-convalescents—as they were practically on the high road to recovery, and did not require any adventitious help. Eliminating, therefore, the above cases, there remained for observation the really acute cases, which have been called “the selection” cases. It was said that the favourable results of these preliminary observations were due to the selection of *mild* cases. Allow me to point out that the term *mild*, in connection with a disease like plague with a normal mortality of 80 per cent., is quite incompatible and a misnomer. There is no grosser libel on plague than to characterise a plague case mild. For the mildness or otherwise is not to be, and cannot be, determined when the patient comes under treatment, but after the disease has run a certain course, and I hold that it would be certainly bold of any one, however wide and varied his experience of plague may be, to declare a case *mild* within the first four days of illness. And if I have been credited with selecting *mild* cases, I cannot certainly lay claim to any such superhuman prescience. In no disease is it easier to tell what patient is going to die, and in none more difficult as to who is going to recover. Under these circumstances, I submit, the words “selection” and “mild” were hardly appropriate.

*The clinical phenomena* that manifested themselves after the injection of serum were moderation in the intensity and duration of fever, improvement in the state of the circulation as shown by increase of arterial pressure, diminution in the size of, and lessening of pain in, buboes, cessation in the progress of advancing lymphatic infection, clearing of the mental faculties, and a general improvement in the condition of the patient. In those cases where it did not ultimately save the life, it prolonged life, and time after time patients in a semi-comatose condition have been observed to improve to such an extent as to be scarcely recognisable. It was also noted that the effects of the serum were not so evident in cases of septicæmic, or pneumonic plague, or in those cases that have a naturally very high rate of mortality. On the other hand, its value was quite apparent in



those cases that have a comparatively lower mortality rate, and which was still further reduced by its use.

The observations on the above lines were intermittent on account of the supply of serum being limited, as well as irregular, and there were long intervals during which no serum was available. They extended from March to October, 1898, and again from February to April, 1899, during which period 403 patients were treated, of whom 249 died and 184 recovered, the recovery rate being 38.21 per cent. During the same period 1,190 patients were under ordinary treatment, of whom only 233 recovered, the recovery rate being 19.5 per cent. The difference, therefore, in favour of the serum-treated cases was nearly double. The Maratha and Modikhana Hospitals received during the above period 4,762 patients, who had a recovery rate of 19.7 per cent. There is thus a remarkable coincidence in the recovery rate between the non-serum cases at the Arthur Road Hospital and all the cases at the latter two hospitals. If it be conceded that the type of the disease, and the nature of the cases admitted into these hospitals, were the same—as they actually were—to what should we ascribe the enhanced recovery rate of the serum cases? It could not be ascribed to the so-called “selection” cases or “mild” cases, for, were it so, the recovery rate in the non-serum cases ought to have reached a vanishing point, whereas it was not lower than the average recovery rate of the other hospitals.

*Preliminary conclusions.*—The following preliminary conclusions were deduced from the above observations :—(1) That the serum exerted a distinctly favourable influence on the course of plague ; (2) that where it failed to avert death, it prolonged life, and temporarily ameliorated the condition of the patient ; (3) that it did not exert much effect in those types of plague that are characterised by an extremely high mortality rate ; (4) that its application, therefore, was mainly, though not exclusively, limited to the bubonic type of plague ; (5) that there were limitations to its use in hospital practice, as about 50 per cent. of all admissions die within 48 hours, 20 per cent. recover naturally, and there remain about 30 per cent. that can be influenced by the serum treatment ; (6) that its use would be more effective in private practice, as early cases would be treated, and that encouraging results, giving a recovery rate of 59.37 per cent. in 32 patients, have been obtained up to now ; (7) that it exerts no deleterious influence on the patient, and could be injected into the healthy not only without any ill effects, but with positive good, as it is capable of conferring *immediate but temporary immunity* against plague ; this immunity may last from ten to fifteen days. — *The Indian Lancet*, March 25, 1901.

## 8.—THE PROPHYLAXIS OF MALARIA.

By PATRICK MANSON, M.D., &amp;c.

[From Dr. Manson's paper :]

Until some practicable method of producing artificial immunity has been devised, the fact that malarial disease is introduced by mosquito bite must be regarded as the principal basis on which to found a scientific and reliable prophylaxis. Such a prophylaxis may be attempted on one or more of the following lines :—(1) Suppression of mosquitoes ; (2) prevention of infection of mosquitoes ; (3) prevention of infection by mosquitoes.

(1) *Suppression of mosquitoes.*—This may be more or less successfully effected by a variety of measures directed either to the abolition, or to the prevention of the formation, of the special type of pool in which these insects breed. Thus swamps and ponds may be drained or filled in ; sedgy-banked, slow-running streams may be cleaned and canalised ; floods, which on their subsidence are apt to leave pools, may be mitigated by afforestation of the hills forming the watershed and collecting area, by embankment, and so forth. Cultivation of rice and other plants entailing the prolonged flooding of land may be interdicted in the neighbourhood of dwellings. Intensive cultivation, requiring only an intermittent flooding, might be encouraged, provision being made that the necessary water channels are periodically and thoroughly emptied. Subsoil drainage with a view to lowering the soil-water level should be practised where possible. Apart from the benefit he might derive from these and similar measures, the private householder and the employer of labour could do much to protect himself and those dependent on him by similar care of his own immediate surroundings. Thus he could easily suppress the many small and unnecessary puddles and pools, so apt in warm countries to form in the gardens and compounds of private houses. No pool is too insignificant to be disregarded ; flower-pots and broken bottles are favourite places for mosquito breeding. A measure of some value has lately had many advocates. I refer to “painting” stagnant waters with petroleum. A few ounces of this very cheap material cast on the surface of the water will effectually free it for a considerable time from mosquito larvæ. In consequence of evaporation the “painting” has to be renewed every week or two. Many measures of a similar kind have been suggested, but experience has not been favourable.



(2) *Prevention of infection of mosquitoes.*—This is best secured by insisting on all malarials using mosquito nets, at the same time endeavouring, by the vigorous and persistent use of quinine, to remove the malarial gametes from the blood. Although quinine does not exercise any specific influence on the gamete when once formed, yet, by preventing recurrences of the endogenous phase of the parasite it effectually prevents the further formation of the infective phase. It must not be overlooked that the subjects of æstivo-autumnal malaria may carry in their blood the crescent gamete for weeks after all acute symptoms have subsided, and that, therefore, they are dangerous to their neighbours and to themselves. The deportation of such individuals to a locality in which there are no anopheles has been advocated. In hospitals located in places where anopheles occur all malarial patients should be regarded as infective, and therefore be scrupulously guarded from mosquito bite or, if possible, segregated.

(3) *Prevention of mosquito bite.*—The value of this measure has been fully established. It is not difficult of attainment. It is often the only measure that can be effectually carried out. Its value has been demonstrated not only by carefully carried out experiment, but also by practical application on a large scale. A house may be made mosquito proof by filling in doors, windows, ventilators, and all similar openings by wire gauze of 1 to 2 mm. mesh, or by ordinary mosquito netting. Additional security is obtained by fitting the beds in such a house with mosquito curtains, which should never be allowed to hang down to the floor, but be tucked under the mattress ; also, by fumigating the rooms occasionally with some such culicicide as the dried flowers of the chrysanthemum, by brushing of furniture and hangings, and by care that all compartments are so constructed that they can be flooded regularly with sunlight.

[The author then relates the researches of well-known investigators, which prove the importance of protecting houses, dwellings, &c. :]

*Prophylaxis by avoiding malarial localities and seasons.*—It is manifest that as far as possible localities notorious for unhealthiness should be avoided for building and camping. Thus low-lying situations in the neighbourhood of stagnant water are undesirable. In the light of Koch's, Christopher's, and Stephens' investigations the neighbourhood of villages, with a child population almost universally infected, should be shunned. In the designing of new European settlements in malarious countries this must be regarded as a fundamental rule in tropical hygiene. Also, native servants should be reduced at night to a minimum, and the presence of young

natives in the house absolutely interdicted. No European house should be located nearer to a native village than half a mile.

*Prophylaxis by quinine.*—There can be no question that by systematic dosing with quinine, or, better, euchinin—five to ten grains once or twice a week, or even daily—tends to prevent or abort incipient malarial infection. It has its drawbacks, however. It is by no means uniformly successful. Some cannot stand the continual drugging. On the score of expense it is inapplicable to large and poor communities. Koch has recently advocated a prophylaxis of malaria on the basis of the prevention of mosquito infection by the killing off of the malaria parasites in an entire community by sustained, all-round drugging with quinine. This, under ordinary conditions, is manifestly impracticable. It would be impossible to dragoon an entire province of such a country as India into taking quinine. Even if this could be done, it would be impossible to prevent the occasional introduction of the parasite from outside or, possibly, from some of the lower animals, some of whom, for all we know, may be its occasional hosts. In some circumstances one of these prophylactic measures may be the more appropriate, in other circumstances another; occasionally all may be got to bear. Theoretically, each of them if thoroughly carried out would suffice. Unfortunately, in the ordinary conditions of life, it is impossible to attain theoretical perfection. Although we cannot get absolute security from mosquito bite in ordinary life, yet we can enormously reduce the liability, and so minimise the chances of malarial infection. This, surely, is worth striving for.

No candid mind can refuse to see in the experiments above alluded to not only a proof of the mosquito-malaria theory, but also a clear indication of one of the ways in which this theory should receive practical application, as well as an indication of the enormous benefit it can confer on malaria-cursed countries. It is curious and disappointing to note the indifference, if not hostility, to this matter exhibited by so many of the guardians of the public health in our English tropical colonies. It almost seems as if a large section of those who, one would think, should be eager to apply so valuable a discovery, is, on the contrary, anxious to discover flaws in the evidence or insuperable difficulties in the application. Those of us who know the theory to be securely established may find some satisfaction in the reflection that medical discoveries of similar moment to mankind—to wit, quinine, vaccination, chloroform, antiseptics—have had to pass through a similar phase of opposition before being finally accepted and adopted.—*The Practitioner, March, 1901.*



# 9.—POLYORROMENITIS, OR COMBINED SEROUS INFLAMMATIONS.

By FREDERICK TAYLOR, M.D., F.R.C.P.,  
Senior Physician to Guy's Hospital.

[Dr. Taylor records a case in a woman, aged 39 years. The following is taken from his remarks :]

Tubercle plays its most important part in relation to chronic and subacute inflammations of the serous membranes, and it is by far the most frequent cause of them. Our Italian friends have submitted such cases in large numbers to analysis, and the following are some of the conclusions they have arrived at with regard to etiology, course, and development. Polyorromenitis is more frequent in males than females, and the majority of the cases occur between the ages of 16 and 30. It is usual for one serous cavity to be invaded before the others, and in most instances it is the peritoneum which is first attacked. In any case, the disease generally begins in one serous membrane and subsequently invades the others, and this invasion occurs according to the following three types, of which the first-mentioned is the most frequent, and the last-mentioned the least :—(1) The peritoneum is first attacked, then the pleuræ, beginning generally with the right pleura ; (2) the pleuræ, then the peritoneum ; (3) the pleura of one side is first invaded, and then the opposite ; (4) pericarditis generally follows a pleurisy, and especially a left-sided pleurisy ; (5) the inflammation may first involve one pleura, then the peritoneum, then the other pleura.

The interval between the invasion of the different sacs may be a few weeks, as in the case of our patient, or some months. The duration, too, is very variable, and the result may be recovery with adhesions, or it may be a fatal termination in phthisis. Attention is specially called to mild cases in children, involving perhaps the peritoneum alone, which cases often recover in a couple of months. The case I had a few years ago of a delicate, ill-fed boy, who had a mild fever with a moderate degree of ascites, who came into the hospital and went out well in eight or ten weeks, would no doubt be placed under this head. I was content to call it tuberculous peritonitis, and as already explained I should even now have scruples about classing it with polyorromenitis, because I have no evidence that more than one serous membrane was involved. The boy is now well, and has had no further developments in the direction of tubercle or serous inflammation. Many years ago, at the Evelina Hospital, a particularly healthy-looking and

robust young nurse rapidly developed a pleural effusion in the left side. After two or three weeks her abdomen swelled, and all the evidences of a moderate ascites were present. She was warded in the hospital, and in a relatively short time both effusions cleared up, and she went away to the country apparently quite well. I have no proof that this case was tuberculous; but what I wish to impress is that the position taken up by some of those who have written upon this subject, and strongly maintained by Picchini, is that subacute and chronic polyorromenitis is practically always tuberculous. In the present case we have failed to obtain evidence of bacteriological research in favour of this. She has not provided any sputum for the discovery of bacilli, and, though the fluid from the pleura has been on each occasion inoculated into animals, the animals have died rather unaccountably a few days afterwards without presenting any tuberculous lesions. However, the strength of our belief of its tuberculous nature here lies in the constant fever, in the simultaneous effusions in the two cavities, and the impossibility of accounting for them by any cardiac, renal, or hepatic lesion.

While assenting to the general proposition that such cases are as a rule tuberculous, I am not prepared to exclude the possibility of an exception, bearing in mind that such a case as that I have already referred to, where dense and thick adhesions of the pleuræ, pericardium, and peritoneum were found after death, constituting, therefore, a polyorromenitis, or the results of one, without any single fact post-mortem to show that it was tuberculous, and nothing in the history to show that it had an acute origin. The prognosis of polyorromenitis in general must depend very much on the cause. The prognosis of pneumococcal polyorromenitis is no doubt very much worse than the prognosis of a pneumococcal pneumonia, or a pneumococcal empyema or pleurisy; that is, the implication of the pericardium is a very unfavourable addition to the case, whether this be from the direct lesion of the heart itself, or from the increased virulence of the organism or organisms which might seem to be implied by its extension to another cavity.

Streptococcal and staphylococcal polyorromenitis is undoubtedly often fatal, and the case of the boy I have recorded just now may be taken as an instance of this. Rheumatic polyorromenitis is of much less serious prognosis. It is true that of the relatively small percentage of deaths in acute rheumatism, a good proportion are in cases where pericarditis and pleurisy coexist; but, on the other hand, of cases of the double inflammation a large proportion recover. But we must remember that it is those cases which may subsequently give rise to serious symptoms either in the form of adherent



pericardium, or of combined adhesions of pleura and pericardium, with or without the addition of a mediastinitis. Of the cases of subacute or chronic multiple inflammations which are attributed to tubercle the prognosis is no doubt more favourable. We know that ordinary uncomplicated tuberculous peritonitis constantly gets well; and the pleurisies which have been until recently regarded as idiopathic or catarrhal, and which are now by many regarded as tuberculous in all cases, also recover completely. So also we see recovery in cases where the serous cavities are associated in a common suffering. The case of the nurse is an instance, and there is at least a possibility that the case I have just described here may leave the hospital practically convalescent. This is not always the case; indeed, I should have thought the fatal cases would be in the majority. Tuberculous peritonitis is probably fatal in more than half the cases; pleurisy is directly fatal in much less; but the associated lesion is not likely to be less fatal than the more fatal of the two operating alone. The addition of a tuberculous pericarditis probably renders death nearly certain.

But supposing recovery from the immediately inflammatory lesions, there remains the risk from permanent adhesions, whether in pleura, peritoneum, or possibly pericardium; and the risk of the development of tubercle in internal organs, especially the lungs or meninges, in the forms of acute miliary tuberculosis, phthisis, and acute tuberculous meningitis.

The figures given by Picchini are distinctly more favourable than I have here suggested. Out of his 50 cases, he states that there were 22 deaths, 7 cases improved, and 21 cures.

The treatment of the condition of polyserositis must be conducted on the lines of the treatment of the separate tuberculous lesions concerned. In suitable cases you would have recourse to perfect conditions of hygiene, to good food, and pure air with all the advantages that are so often seen to accrue from residence either at high levels, or at a bracing sea-coast. For our hospital patients there is no doubt that the residence in a well-ventilated, capacious, and airy ward, with regular and good food, and absence from all work and household cares, often constitutes such an improvement in the surroundings of the patient as to lead at once to a diminution in the activity of the tuberculous process. This at least we see constantly in the case of phthisical patients no less than in cases of tuberculous peritonitis. Internally as drugs we have administered cod-liver oil, creosote, and iron, and many recommend no other drugs likely to antagonise the pernicious effect of the tubercle bacillus, arsenic, iodine, and mercury. As local measures we have aspirated the left chest, and have applied mercurial ointment to

the surface of the abdomen. The former measure was justified partly as a means of diagnosis, partly as a therapeutic measure in view of the large quantity which seemed and was proved to be present. Mercurial inunctions in the treatment of tuberculous peritonitis have often seemed to be valuable, and their use has often been followed by practical cure, that is, by the subsidence of all the symptoms, and the return of the patient, often a child, to the ordinary conditions of healthy life, though it must be allowed that peritoneal adhesions are very probably left behind in many cases. Laparotomy is a method of treatment which I will not now discuss, but which may become desirable, in the event of our present treatment not proving adequate.

P.S.—The tuberculous nature of the lesion was demonstrated by a laparotomy performed on August 7. For some weeks previous to this a rather ill-defined area of solid resistance had been recognised in the abdomen below and to the right of the umbilicus. The abdomen was opened by a vertical incision. Between four and five pints of clear, yellow serum were discharged. Tubercles in great numbers were found in the peritoneum, and the subperitoneal tissue was greatly thickened. The patient died on November 10. The lungs were found to be adherent to the parietes; at both apices were deposits of healed tubercle with surrounding emphysema, and throughout both lungs were numerous tubercles of firm consistence like small glass beads with no sign of caseation. The stomach and intestines were matted together and completely adherent to the parietes by old fibrous adhesions, and masses of caseating tubercle lay in among them. The peritoneum was much thickened throughout. The intestines were in many places constricted by the adhesions, and there were no tuberculous ulcers. The liver and spleen had thickened capsules, and were adherent to adjacent parts. There was no fluid in either pleural or peritoneal cavity.—*British Medical Journal*, December 15, 1900.

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#### 10.—PERNICIOUS ANÆMIA.

*The Clinical and Pathological Features of Pernicious Anæmia, its Antiseptic and Serum Treatment.*

By WILLIAM HUNTER, M.D., F.R.C.P.

The author made a communication on a case of Pernicious Anæmia with Observations on the Clinical Features, the Infective Nature, and the Antiseptic and Serum Treatment of the Disease. The patient (who was exhibited before the Royal Medical and Chirurgical Society) was a man, aged



thirty-seven years, whose symptoms—breathlessness, palpitation, and progressively increasing weakness—had come on very gradually two years before. The case had previously to coming under observation been regarded as a case of gastric catarrh on account of the discomfort in the stomach. The most prominent symptoms were a constant pain in the stomach and mouth, which was liable to exacerbations, coming on about every three weeks and lasting two or three days, after which the mouth and tongue became each time very sore and the tongue sore. The gastric symptoms consisted of pain in the stomach, nausea, and retching, which were worse when the organ was empty. A curious tingling and numbness of the fingers were complained of occasionally. The history was a very typical one as regards the oral sepsis, extending over eight or ten years, followed eventually by gastric pains. The gradual onset of the anæmia with weakness and with recurrent attacks of gastric disorder and glossitis were also very characteristic. On admission there were four groups of symptoms—(1) weakness and extreme anæmia and their usual effects ; the red corpuscles were only 27 per cent. of the normal and hæmoglobin only 35 per cent. ; there was also poikilocytosis ; (2) hæmolytic symptoms, viz., urobilinuria and a lemon colour of the skin ; (3) oral and gastro-intestinal symptoms, viz., sore tongue, dental necrosis, suppuration of the gums at one part (which had existed for ten years), and gastric pains ; and (4) toxic symptoms, viz., tingling and numbness of the fingers and irregular pyrexia. The treatment consisted of oral and gastric antisepsis, the teeth were scraped, some were extracted, and a mouth-wash was used. Mercuric chloride was administered constantly. On July 9, 13, and 23 three injections of anti-streptococcic serum were administered. After the first the red corpuscles rose to 36 per cent., after the second to 52 per cent., and in the course of three weeks the red corpuscles rose to 6 per cent., the hæmoglobin to 72 per cent., the hæmolysis (as evidenced by the colour of the urine) was arrested, and the patient's health slightly improved. The injections were followed by febrile reaction, that after the first was very marked. The temperature during the first week after admission had been variable, between 99 deg. and 97.5 deg. F., but after the injections it became steadier and about normal. The patient was so much better that he went for a time into the country. On September 26 liquor arsenicalis was added to the other treatment. The improvement continued, the patient gained over one stone in weight, and on December 20 the red corpuscles had risen to 94 per cent. and the hæmoglobin to 100 per cent. The only symptoms remaining was occasional numbness in the fingers. The case, Dr. Hunter remarked,

must be regarded as a typical one of pernicious anæmia in its mode of onset and clinical history and the four groups of symptoms present. The case was the first he had been able to treat on the lines he had recently recommended, viz., complete and long-continued oral and gastric antisepsis. These aimed at the removal of the infective cause of the disease and of the septic conditions of the mouth and stomach which favoured its operation. Nevertheless, the infection still remained on the tongue and showed periodic tendency to break out afresh. On several occasions the soreness of the tongue had returned, accompanied each time by feelings of illness and increased signs of hæmolysis in the urine, but each time they were checked by strong antiseptic measures. The results clearly showed the beneficial effects of serum treatment, at the same time confirming the infective nature of the disease. The first two doses were 10 cubic centimetres, afterwards 5 cubic centimetres were given. In view of the reaction it would be advisable in future to begin with only 5 cubic-centimetre doses and to see that the temperature was not variable and erratic at the time of the injection. Dr. Hunter illustrated his paper with lantern slides showing the clinical and pathological data of the disease and a schematic representation of the course and results of his investigations during the past 15 years.

In the discussion which followed, Dr. T. D. Savill, referring to the clinical aspect of pernicious anæmia, thought that slighter instances of the disease or of an allied disorder might prove to be more common than was generally believed. The original conception of pernicious anæmia implied an intense form of anæmia, occurring for the most part in elderly men, and almost necessarily leading to a fatal issue. Among the out-patients at the hospital were a large number who applied for neurasthenic and angio-neurotic symptoms, but who also presented marked gastric symptoms and very bad teeth. The cure of such cases rested largely with the dentist. He (Dr. Savill) had not made precise observations, but their skin was always pale, often "earthy" in colour; and it might be a question whether these were not instances of a toxæmia allied to pernicious anæmia.

Mr. Arthur Barker remarked that he thought that the blood of certain cases of alveolar abscess might profitably be investigated.

Dr. Hunter, in reply, said that in the case he had referred to of alveolar abscess there was not the faintest suspicion of that leison during life. He had since seen ten cases exactly like the typical case of pernicious anæmia he had described. He wished to correct the impression, if such existed, that this disease was a gastro-intestinal dyspepsia. The alimentary tract was only the locality where the diseased process took



place and it stood to pernicious anæmia just in the same relation as those of intestinal lesions stood to typhoid fever or those of the throat to diphtheria. As to the diagnosis of the disease, it was not to be based upon the blood changes alone but upon the association of these with four definite groups of symptoms, viz., anæmia, hæmolytic changes in the urine, oral and gastro-intestinal symptoms, and fever with other toxæmic symptoms. As to the separation and identification of the organism, the streptococcus was only an associated bacterium and it was not hæmolytic. He had not yet isolated the true specific organism.—*From a report of the proceedings of the Royal Medical and Chirurgical Society of London, Lancet, March 30, 1901.*

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## II.—CASE OF SECONDARY ANÆMIA BECOMING PERNICIOUS.

By WILFRID EDGECOMBE, M.D. Lond., F.R.C.S. Eng.,  
Harrogate.

[The details of the case and the table of blood examination have had to be omitted here.]

Reference to the table giving the results of the examinations of the blood shows the importance of making repeated examinations of the blood, for during certain stages of the disease it would have been impossible to have diagnosed the condition from one examination, with the result that a too hopeful prognosis might have been given. The following points of interest may be noted :

(1) The low percentage to which the hæmoglobin fell before death ; 8 per cent. is the lowest reading I have recorded among many hundreds of examinations.

(2) The high-colour index, which in itself would give rise to suspicion as to the nature of the disease. The colour index depends, of course, on the adjustment between the two instruments used for estimating hæmoglobin and corpuscles respectively. The scale of Oliver's hæmoglobinometer is based on the mean of a large number of counts made equally with the Gowers and Thoma-Zeiss cytometers, which differ slightly in their readings. The colour index, as here given, may be taken as very near the truth. It was maintained throughout (with one exception) at a level considerably above the normal (1.0), rising on two occasions to 2.4, until shortly before death, when it fell to 0.84.

(3) The preponderance of megaloblasts over normoblasts among the nucleated red cells : This is regarded by many

observers as characteristic of pernicious anæmia ; for, though nucleated red corpuscles are found frequently in all grave anæmias, practically in no other condition do the megaloblasts so constantly outweigh numerically the normoblasts. Cabot, in a recent valuable paper, the outcome of the study of 110 cases of pernicious anæmia, regards this as a distinctive feature of the disease, and a point of differential diagnosis from secondary anæmia. In the table of nucleated elements I have not classified separately the microblasts, nor the free nuclei, which were of fairly frequent occurrence ; nor is mention made of myelocytes, which occurred not rarely. On two occasions coarsely granular basophile cells were met with. The relative diminution in the number of nucleated cells towards the end has been noted by other observers. Coles, in one of two cases in which repeated counts were made, noted the same fact. It may, perhaps, be regarded as an indication of exhaustion of the regenerative power of the hæmogenetic tissues.

(4) The leucocytes: Taking the average number of leucocytes present in health as from 8,000 to 9,000 per c.mm., it will be seen that the number present in this case was usually below normal. The lymphocytes were relatively somewhat in excess, and the polymorphonucleated leucocytes somewhat under their normal proportion. Other observers (Hayem, Stengel, &c.) have noted the same facts, and Cabot contrasts the diminution in polymorphonuclear neutrophiles in pernicious anæmia with their frequent, though not invariable, increase in secondary anæmia. The large hyaline cells and the eosinophiles were present in normal numbers.

*Causation.*—Passing in review the definite history of long-continued repeated loss of blood in small quantities from the nose, giving rise to a state of anæmia lasting, with intermissions, for a long period of years, the case might be considered as one of pure secondary anæmia. If this be so, then the condition in the later stages is clinically indistinguishable from the true pernicious form. Moreover, the prevention of further hemorrhage failed to arrest the progress of the disease. The case must be regarded as originally a secondary anæmia, gradually merging into true pernicious anæmia, and must be classified with those described by Coupland as “symptomatic or secondary pernicious anæmia,” differing only from the primary or idiopathic form in the fact that in the latter no obvious cause is to be found. Cabot, in the paper above referred to, states that he has no experience leading him to believe that there is any such condition as “secondary pernicious anæmia.”

The case under consideration appears to me to clearly show the possibility of chronic secondary anæmia passing into the pernicious form, and tends to bear out the well-known views of



Stockman as to the pathology of the disease : that all cases of "idiopathic" pernicious anæmia are really forms of secondary anæmia, initially brought about by various causes, and subsequently perpetuated and rendered "pernicious" by repeated minute hemorrhages into the tissues as a result of the anæmic state. In the idiopathic cases the hemorrhages are internal and clinically invisible ; in the obviously secondary cases the hemorrhage is primarily external and visible, with the subsequent development, in the later stages, of the former condition.

The possibility, however, must not be lost sight of that the case may bear on Hunter's recently-published hypothesis that the disease is due to blood destruction resulting from an infective process set up in the gastric or intestinal mucous membrane by the swallowing of repeated small doses of pus derived from some suppurating focus, usually alveolar suppuration from carious teeth ; for, in addition to the blood continually swallowed, there was a slight admixture of purulent discharge from the nose which passed down into the stomach, and may there have set up infection. The small size of the ulcerated surface and the slight amount of discharge render this supposition somewhat improbable.—*British Medical Journal*, May 4, 1901.

## 12.—THE TREATMENT OF ANÆMIAS.

By Prof. CLIFFORD ALLBUTT, F.R.S.,

Regius Professor of Physic at the University of Cambridge.

[From Dr. Allbutt's paper, read before the Balneological and Climatological Society :]

The first division I would propose is that into simple anæmias and hæmolytic anæmias, the first being indicative of some nutritive or physical deviation, and the other of the presence of a toxic cause of deterioration, such as the cachexias of lead, of tubercle, of cancer, and so forth. Yet even this distinction must not be pressed too far, as in some anæmias, supposed to be simple, there may be a latent toxic cause, as, for instance, is alleged by some observers in chlorosis. Still the division has its convenience.

In the consideration of the simple anæmias we are deprived of some of the help which we believed ourselves to possess. It seems now that the blood counts on which, in the wards, we have relied with some confidence, are less trustworthy than we had hitherto believed. The superficial drop is by no means always, or even generally, an average specimen of the whole blood. Muscular exercise affects the distribution of the red

corpuscles on the surface in one way, massage in another, the periods of day and night in another, the lymph circulation in another, and, above all, the state of the superficial arteries in respect of dilatation and contraction. Thus much of the foundation upon which we have been accustomed to build proves treacherous. Furthermore, the bulk of the blood mass in the body turns out, not unexpectedly, to be a factor of considerable importance—"not unexpectedly" because its importance had long been apprehended darkly, but by no known method could be estimated. At last this factor, it would seem, can be measured by the method of Haldane and Lorrain Smith. From these researches it is stated that in all anæmias there is an increase of the blood mass—or in all simple anæmias—but to clinical observers this seems a very wide proposition. It is, however, in accordance with ordinary experience that the blood mass should prove to be increased in chlorosis.

Among other deductions from Dr. Oliver's observations is an explanation of the well-known apparent increase of red corpuscles in persons removed to high altitudes—namely, by a concentration of the plasma. In this view the increase is not absolute but relative. Dr. Oliver, in farther analysis of this phenomenon, ascertained that the concentration of the plasma is due not to elevation, as such, but to a greater dryness of atmosphere; and in proof of this position the author found that farther experiments carried on in dry climates, such as Egypt, though at sea level, produced the same apparent increase of red corpuscles; that is, the same concentration of plasma. High climates may then have good effects in improving appetite and other functions; but for the reduction of the plasma, which plays, at any rate, an important part in the disease, any dry climate, high or low, will suffice. I would urge that in this discussion chlorosis should be distinguished from the anæmia of ill-nourished or impoverished persons, which needs other means.

Starvation anæmia is found in both sexes, but chlorosis is peculiar to women. It will not do, therefore, to take all anæmias occurring in women as chlorosis, whereby many mistakes become current; *e.g.*, the anæmia of arterial "hypoplasia" is not chlorosis; it is found in both sexes, and is not attended by increase in the bulk of the blood; there is neither sanguineous plethora nor cardiac dilatation, and much of the confusion of the clinical records is due to the failure to distinguish other anæmias in women from chlorosis. Dr. Oliver found that for the anæmias of impoverishment the colder high climates are not to be sought, but rather watering-places near the sea, with warmth of air, baths, and clothing. I regard



these patients as suffering from defect of function of all the glands of the body, of which the dyspeptic symptoms are partial evidence ; and Dr. Oliver's experience supports this opinion, as he finds that, impoverished as many of these patients are, they do well on mineral waters of the muriated class and mild mercurials. At first sight these measures do not seem restorative, but by setting up an increased absorption they may promote the motion of the fluids, and thus indirectly bring about a greater succulency of the tissues. In hæmolytic anæmias there is some risk in sending patients to high altitudes, or elsewhere, where sudden demands on blood formation may be too much for the energies to satisfy. My colleague, Dr. Humphrey, has been engaged for some time past in treating these cases in the open air, on the verandahs of the Addenbrooke's Hospital, and with remarkable success considering the unpromising nature of such groups—pernicious anæmia, leucocythæmia, and the like. Chlorosis does not seem to be influenced so readily in this way as might have been expected, that is, not at low levels. It has been shown that a dry atmosphere is the main climatic requirement for chlorosis. It is said by Hirsh and others that chlorosis becomes prevalent as the women are withdrawn from open-air occupations ; my own experience is rather that this disease is a family disease and hereditary, and is favoured by in-breeding on isolated areas of the country.—*Medical Press and Circular*, February 10, 1901.

### 13.—ANÆMIA WITH ENLARGEMENT OF THE SPLEEN.

By R. BARCLAY NESS, M.A., M.B., F.F.P.S.G., &c.,  
Dispensary Physician to the Western Infirmary and to Royal  
Hospital for Sick Children, Glasgow.

[Dr. Ness relates a case in a girl aged 16 years. The following is taken from his commentary :]

In considering the diseases which may be associated with marked anæmia and enlargement of the spleen, it should not be forgotten that in children rickets and syphilis are distinct causes, no doubt at a much earlier age. The other diseases in which we may have anæmia with enlargement of the spleen are these—Leucocythæmia, Hodgkin's disease, pernicious anæmia, splenic anæmia.

*Leucocythæmia*.—In the two forms of this disease—(a) spleno-medullary ; (b) lymphatic—we have anæmia and enlargement of the spleen, but it is only in the lymphatic form that we have

usually the lymphatic glands enlarged. We could not, therefore, exclude leucocythæmia in this case without an examination of the blood. In this connection it should be remembered that in some cases the actual number of leucocytes may not exceed very much that of normal blood, but when this is the case we can always depend upon the character of the leucocytes to indicate the condition. In the spleno-medullary form the chief fact is the presence of a large number of marrow-cells (myelocytes), while in the lymphatic form there is a distinct relative excess of lymphocytes. Now the blood in the present case in no way suggests leucocythæmia of either form. We have a slight increase of the leucocytes (leucocytosis), but we have really no great variation in the due proportion of the several varieties to one another. The presence of the nucleated red corpuscles and myelocytes were few in number, and have a certain grave significance, but none in suggesting leucocythæmia.

*Hodgkin's disease.*—The chief fact in the diagnosis of this condition is the enlargement of the lymphatic glands. This does not constitute an important feature in this girl's case. The spleen is the chief organ involved, and while the spleen is in Hodgkin's disease frequently enlarged, the enlargement is seldom very apparent until the lymphatic glands are very distinctly involved, and far beyond what is present in this case, otherwise one could not by the examination of the blood exclude such a diagnosis.

*Pernicious anæmia*, again, is a disease chiefly of adults. In children it is rare. The disease is progressive in its character. The hemorrhagic tendency is common. The spleen may be slightly enlarged, but great enlargement is not a feature of the condition. In all these respects our case differs from "pernicious anæmia," so also with regard to the examination of the blood. Though the poikilocytosis and the presence of the red nucleated corpuscle and even the leucocytosis under certain conditions are compatible with this diagnosis, it is not so with the relative diminution of the red blood corpuscles and the hæmoglobin. In pernicious anæmia the hæmoglobin does not suffer the same diminution that the red blood corpuscles do. In the present case the diminution is most of the chlorotic type, the percentage of red blood corpuscles being greater than that of the hæmoglobin.

*Splenic anæmia* is the only name that can be given to the condition present in this case. The name is not one of the best, because it is by no means an ascertained fact that the anæmia is caused by the condition of the spleen. The anæmia and the enlargement of the spleen being two very prominent features of the condition, the name may very well remain for want of a better. Two very definite conditions have been



described under this name, and yet the case presented to you differs from both in certain important respects. The first type is fully described by West in what is perhaps the most recent article on the subject. (Clifford Allbutt's *System of Medicine*, vol. v., p. 539.) West's initial definition of splenic anæmia is that it "is a form of profound anæmia, progressive in character, ending fatally, generally of no long duration, associated with great enlargement of the spleen, but without leucocytosis or enlarged glands." In the later stages of the disease the anæmia is profound, the loss of strength is extreme. The patient suffers attacks of severe pain in the region of the spleen. Hemorrhages, especially epistaxis, are common. The temperature is usually raised, and of the hectic character. The disease is one of adult life, though a case as young as nine years has been recorded. The duration is not long, usually from six months to two years, rarely longer, though a case has been reported by Müller extending over four and a half years.

The case in question agrees in some points with the above description. There is the anæmia, chiefly of the chlorotic type, and the enlargement of the spleen, associated with attacks of pain, but only on one occasion of a severe character. The lymphatic glands are only slightly enlarged in some regions. There are, however, very essential points of difference. Perhaps the most important is that the disease has not shown the progressive character described above. The patient has certainly been affected for seven years, and probably for a year or two longer, and of late, instead of there being deterioration of health, there has been slight improvement. She has gained nearly 10 lb. since February last. Though this is not a great deal, it is in the right direction. The condition of the blood has also improved a little. Again, there is the absence of all tendency to hemorrhages, and though the temperature when she was first admitted to hospital was of doubtful significance, yet it could never be said to have shown anything like the type of hectic fever indicated by West as being usually present. Lastly, the age of the child when she first turned ill was one at which the disease is uncommon, though curiously enough the child was then nine years old, the age given of the youngest case on record.

Reference must now be made to a second form of splenic anæmia which is found in infants. West made special reference to this condition in a "Discussion on Enlargements of the Spleen in Children," which he opened at the annual meeting of the British Medical Association held this year at Ipswich. (*Brit. Med. Journ.*, September 1, 1900, p. 567.)

I will not enter into the description of this condition further than to state that we may have in the infant, as in the adult, a

profound anæmia, associated with great enlargement of the spleen. The liver in about 50 per cent. of the cases is enlarged, while there is little or no general enlargement of the lymphatic glands. The examination of the blood shows the anæmia to be of the chlorotic type, but nucleated red corpuscles and megalocytes are often found. Hemorrhages are not uncommon. Fever may be moderate or of the hectic type ; usually there is none. Gastro-intestinal disturbances are common. This condition in the infant is by no means of the same grave character as that first described as occurring more commonly in the adult. Nearly 40 per cent. of the cases of splenic anæmia in the infant make complete recovery. In some cases, however, the health seems restored, and the spleen is much reduced in size, but relapses occur, so that though in the end recovery may take place, yet the duration may extend over many months, and the spleen may remain enlarged for two or three years. Thus it is that cases recognised for the first time in young children have probably been first affected in infancy. But the case I have shown you does not seem to have been first affected in early infancy. In any case it presents characters much more persistent than anything represented in the above description. The anæmia and the enlargement of the spleen has persisted probably for a considerable number of years, associated with a varying degree of asthenia, and, again, the hemorrhagic tendency, as has been pointed out, is absent in this case, so also is another feature of splenic anæmia in infants—gastro-intestinal disturbances. For these reasons we cannot say, with any degree of assurance, that the condition could have arisen out of this so-called splenic anæmia of infancy, though the non-progressive character of the condition is more in accordance with this type than with the type first described, so commonly met with in adults. Our idea of splenic anæmia, I think, cannot be limited to those two types of cases. Many cases will be found where anæmia and enlargement of the spleen go together, but not of a progressive character, and with no hemorrhagic tendency. The anæmia, however, tends to persist, and the spleen remains enlarged. I have seen such cases in children far beyond the age of infancy, also in young adults, and I do not think they can all be assigned to the class of secondary anæmias associated, for example, with syphilis. These seem, like this case, primary anæmias, even although they have a doubtful history as far as specific disease is concerned. On the other hand, many cases have no such suspicious history at all.

It seems, therefore, to me that we must recognise other cases than those described by West under splenic anæmia, tending towards a fatal termination, and the infantile form where cure



is not uncommon within a comparatively short period. It may be that we need a nomenclature that will separate the different forms, but we will require to know much more about the pathology of these conditions before any such differentiation can take place. In the meantime, splenic anæmia must consist of a series of cases, by no means the same in their origin and progress, as the types already discussed distinctly show, but all characterised by marked anæmia and enlargement of the spleen, and with blood conditions which do not permit them being classified with any well recognised type as we know them at present, such as pernicious anæmia and leukæmia.—*Glasgow Medical Journal*, December, 1900.

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#### 14.—GOUT IN CONNECTION WITH LEAD IMPREGNATION.

By GEORGE LORIMER, M.D.,

Late Medical Officer to the Devonshire Hospital, Buxton.

[The following is taken from Dr. Lorimer's very instructive paper:]

Lead impregnation is a predisposing cause of gout. The evidence which is adduced in support of this belief is : (1) That among hospital patients who suffer from gout a large proportion are found to be affected with, or to have previously suffered from, lead poisoning. (2) That patients who are subject to gout are specially susceptible to plumbism, while it is also found that gout may be induced by the administration of lead salts in those who are predisposed to it, and the relation of cause and effect is shown from the fact that the latter ceases on the discontinuance of the former and recurs on its repetition. (3) That under the influence of lead salts the blood becomes abnormally charged with uric acid, while there is a corresponding deficiency of it in the urine.

It would appear that lead gout is most conspicuous in London, and seldom seen in the provinces, and the difference of distribution has been ascribed to the difference in the use of alcoholic beverages, beer and stout being largely consumed by Londoners, and whisky being principally used in the north. It has, indeed, been doubted if lead *per se* is capable of originating gout without the additional aid of hereditary predisposition and intemperance, and without doubt intemperance, if not a predominant partner, is a frequent concomitant in the causation of lead gout. My own observation would lead me to

believe that lead gout is not so infrequent in the provincial towns as is believed, neither are the habits of its subjects, as regards the excessive use of beer, dissimilar to the Londoners. During my official connection with the Devonshire Hospital there were admitted in all 696 cases of true and typical gout, of whom 80 were affected with lead poisoning—or 11 per cent., a percentage much smaller than the London experience, and it may also be mentioned that about one-fourth of these cases came from London, while the remainder came from the Potteries, and from the Lancashire, Yorkshire, and Midland towns. During the same time the total number of patients, whose occupation exposed them to the influence of lead (such as painters, potters, plumbers, file smiths), admitted on account of rheumatism or gout, *i.e.*, arthritic disease, was 772, of whom the large majority showed no signs whatever of saturnine intoxication, neither was there reason to suspect any connection between their arthritic affections and their occupation. But in a minority of one-seventh there was distinct evidence of plumbism. Excluding, then, the cases of unequivocal gout, the claims of the remaining cases—where rheumatoid pains and arthritis occur in connection with plumbism—to be regarded as rheumatic are very doubtful; and when arthritis occurs in conjunction with uricacidæmia, and occasional albuminuria, its dependence on the toxic effects of lead, as well as its gouty character, are highly probable, even though the character of the arthritis may differ from true and typical podagra—the visible evidence of which is shown by the presence of uratic deposits. My reasons for inclining to this opinion is, that I observed some cases where the articular appearances were indistinguishable from rheumatism in the initial stages, but in the gradual evolution and progress of the disease the gouty impress became more apparent, and eventually culminated in typical gout.

It may be said that the subsequent occurrence of gout was a development *de novo*, but it seems more reasonable to believe that the primary arthritis was of plumbic origin, and that the gouty character became more manifest in the future progress of the disease. In connection with this I may remark that I have observed articular rheumatism after rheumatic fever in a subject of plumbism assume a distinctly gouty character, with the final evidence of uratic deposits, and therefore it may be assumed that there is a gradual transmutation from the rheumatic to the gouty type of arthritis, unless (a most improbable conjecture) the uratic deposits were mere accessory epiphenomena. In gout associated with lead impregnation there is the combined effect of two morbid and concurrent influences: (1) plumbism, with its cachexia resulting from its effects on the nervous and



circulatory systems ; and (2) gout, with its protean forms, its complications and tendency to vascular and tissue degeneration. As has been well observed by Sir Dyce Duckworth, "the lines of the two affections, saturnism and gout, run as it were parallel, and seem only to be modified by individual habit and diathetic tendency."

It is proposed to inquire how far the mixture of these two affections influences the course and character of gout, and if there are any symptoms and signs which specially distinguish it. The conclusions arrived at are based on an analysis of 107 cases of gout associated with lead impregnation which occurred in the Devonshire Hospital, and the facts observed and recorded will be briefly summarised. It may be premised that I include in these cases not only cases of true and typical gout, of which there were 80, but cases of plumbic arthritis, of which there were 27, whose claim to gout has already been referred to—and the term saturnine gout is therefore used in its broader and more extended acceptance.

(1) *Age*.—The first attack of gout in connection with lead impregnation occurs at an earlier age than when independent of it. Of 107 cases, in 70 the first attack occurred prior to 35, and in the remaining 37 cases it occurred for the first time between the ages of 35 and 65. This contrasts with the history of ordinary gout, for the first attack—except when there is strong hereditary predisposition—usually occurs from 35 to 40, while acquired gout is frequently a disease of later life.

(2) *Hereditary tendency*.—In gout associated with plumbism the influence of direct hereditary predisposition is less marked. Of 107 cases it was noted in 9 ; and even admitting that deductions drawn from negative proofs are only partially conclusive evidence of its absence, with full allowance for the indifference to severe accuracy of statement usually met with among hospital patients, and after such statements have been carefully sifted, still this percentage contrasts with ordinary gout, where hereditary predisposition is found to occur in at least 50 per cent. of cases ; whilst, according to Sir William Roberts, fully 75 per cent. can be traced back distinctly to a gouty ancestry in the better classes. Of the 107 cases, when hereditary predisposition included arthritic disease (*i.e.*, rheumatism and gout), the predisposition was increased from 9 to 35 per cent.

(3) *Anæmia*.—In gout the blood corpuscles undergo no change in number and quality, but in gout associated with lead impregnation the red corpuscles are diminished in number, the white sometimes increased, and the red colouring matter is reduced in amount. Anæmia was noted in 75 cases ; in the remaining 32 cases it was less marked or absent. The anæmia

of saturnine gout is probably due to the action of lead on the blood—more marked as the cachexia becomes more apparent—and not only contrasts with the sanguineous arthritic diathesis, but affects and modifies the type and progress of the disease.

(4) *Asthenic type of arthritis*.—From the early age at which saturnine gout occurs, when functional activity is more vigorous, an acute and sthenic type of arthritis might be expected to prevail. In a number of cases in the first attack, and in a minority of cases in a subsequent attack, the arthritis assumes this type, but in the majority of cases the type of arthritis is asthenic and the accompanying pyrexia slight, with a tendency for the arthritis to pass insidiously into a chronic and adynamic form; the local and constitutional phenomena are less intense, but more persistent, lingering, and obstinate. The asthenic type of arthritis appears to be due to impaired vitality, to the effects of lead on the trophic centres, and to the renal changes.

*Joints affected in saturnine gout*.—In 28 cases the joints of the feet were involved, in 7 of which the great toe alone was implicated, and in 20 cases the joints of the hands; in 34 cases the joints of both hands and feet were affected. In the remaining 25 the knees also were implicated, in 4 of which the elbows were attacked. In two cases were noted Gubler's dorsal swellings of the hands. In 20 cases tophaceous deposits were noted on the helix of the ear. According to Lancéreaux, uratic deposits are less abundant in gout associated with lead impregnation.

(5) *Cutaneous manifestations* of gout are seldom present in saturnine arthritis. Of 107 cases, one was associated with psoriasis and one with eczema, and in the latter instance there was a hereditary history of gout, which is in marked contrast with ordinary gout, where at least 18 per cent. of cases are associated with eczema. Gouty affections of the eyes were of infrequent occurrence. Sclerotitis was once noted; exception, however, may be made to neuro-retinitis, in instances which were associated with chronic interstitial nephritis. The abarticular manifestations of gout are generally less marked than in ordinary gout, renal affection in lead gout, however, being excepted.

*Arterial thickening and degeneration*.—A sign which was observed to be more or less constantly present, and in two-thirds of the total number of cases pronouncedly marked, was an arterio-capillary fibrosis, along with atheromatous changes, the result of the combined effects of gout and plumbism, leading to premature senile changes in the arterial system; for, on the one hand, the retention of uric acid in the blood in gout gives rise to increased arterial tension, and induces atheroma; while on the other hand the effect of lead, either through the



contaminated state of the blood, or from its influence on the vaso-motor nerves, is to lead to thickening and contraction of the arteries, and increased arterial tension to overcome the increased peripheral resistance. Therefore *a fortiori* the combined effect of the two toxic influences is to increase and accentuate arterial degeneration and induce cardiac hypertrophy, which is generally present as the disease advances.—*Quarterly Medical Journal*, May, 1901.

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## 15.—THE TREATMENT OF MYXŒDEMA.

By GEORGE R. MURRAY, M.A., M.D.Camb., F.R.C.P.,  
Heath Professor of Comparative Pathology in the University of  
Durham ; Physician to the Royal Infirmary, Newcastle.

[From Dr. Murray's paper on the "Therapeutic Uses of Thyroid Extract."]

The function of the thyroid gland is to form an internal secretion, the colloid material, which passes from the alveoli into the lymphatics of the gland, and is thus conveyed into the general blood stream, by which it is distributed to all parts of the body. This secretion plays an important part in the general metabolism of the tissues, which is but imperfectly performed when the supply of the secretion is absent or insufficient. Fortunately, under such circumstances we can make good the deficiency by the internal administration of the secretion in the form of thyroid extract. From this it follows that the chief sphere of usefulness of thyroid extract is in the treatment of those conditions which are due to destructive disease of the thyroid gland, with diminution or cessation of its secretory functions, such as myxœdema and cretinism. The striking results obtained in the treatment of those two diseases have naturally led to the trial of the remedy in many others, in some of which good, in others negative or even harmful, effects have been observed.

The thyroid gland may be employed in several different forms. The raw fresh gland of the sheep may be given finely minced and mixed with glycerine, the usual dose being from one-eighth to one-quarter of a lobe. As a rule, however, it is much better to employ one of the two official preparations, *liquor thyroidei* or *thyroideum siccum*. The equivalent doses of these two preparations have been kindly estimated for me by Messrs. Brady & Martin, who found that on the average each lobe of the sheep's thyroid gland yields eight grains of dry

thyroid powder or 48 minims of thyroid extract. Thus, one-eighth of a lobe of the fresh gland = ℥ vi. of *liquor thyroidei* = gr. i. of *thyroideum siccum*. The liquor should be prescribed undiluted, the dose being measured out in minims, and water added at the time it is taken. It is advisable to obtain a fresh supply once a fortnight. Dry thyroid may be prescribed in either a powder, pill, or tablet.

Advanced cases of myxœdema are now rarely seen, as the disease is in nearly all cases recognised and treated in the early stages. The appearance of a patient suffering from the fully developed form of the disease is so striking that the diagnosis presents no difficulty. In the early stages, however, the diagnosis is not so easily made, and the real nature of the disease may be overlooked. It is, therefore, of great importance in cases of ill-health, especially in women between thirty and fifty years of age, in which no special explanation of the symptoms can be found, that the early signs of myxœdema should be carefully sought, as these slight early cases are not at all uncommon. It would, however, take us beyond the scope of this article to consider their special features, which have been fully described in my recently published book. In cases in which the diagnosis is doubtful the therapeutic test may be applied by giving the patient ten minims of *liquor thyroidei* at bedtime each night for three or four weeks. If steady improvement takes place, the symptoms are due to thyroidal disease; if not, some other cause must be sought.

The treatment of a case of myxœdema is conveniently divided into two stages. During the first our object is to get rid of all the symptoms, and so restore the patient to health; during the second stage we have to maintain the condition arrived at by the first. It must, of course, always be remembered that cessation of treatment will be followed by a return of the symptoms. During the first stage of the treatment of an advanced case of myxœdema it is advisable to keep the patient in the house, or even in bed if any symptoms of degeneration of the cardiac muscle are present, such as feeble or irregular pulse, dyspnœa on exertion, or weak heart sounds. In such cases only a small dose should be given at first, three minims of thyroid extract or half a grain of dry thyroid each night at bedtime being sufficient for the first week. If this dose is well borne, it may be gradually increased up to ten or twelve minims of the former or two grains of the latter preparation by the end of the second or third week. This dose may be continued steadily until all the symptoms of the disease have disappeared, when the first stage of the treatment is completed.

The second stage, of necessity, lasts as long as the patient lives. During this stage it is necessary to give an amount of



thyroid extract each day equivalent to the daily output of secretion from a healthy thyroid gland. As a rule, one drachm of *liquor thyroidei* each week is quite sufficient, ten minims being taken every week-day at bedtime. Thus, for example, my first case, who has been treated for ten years, takes this amount regularly and remains free from all symptoms of myxœdema. In some cases seven minims are quite sufficient for the permanent daily dose. I have not found it necessary to give more than ten minims in any case.

In slight cases it is not necessary to confine the patient to the house, and ten minims of the extract may be ordered from the commencement of the treatment. In these cases it is probable that a portion of the thyroid gland still retains its functional activity, so that when the first stage of the treatment is completed the permanent dose for the second stage may be rather smaller than in the advanced cases where the gland is probably quite functionless. Five or seven minims of the extract each night have proved sufficient in some of my cases.

The most striking results of the treatment carried out in the manner just described are seen in advanced cases of myxœdema. In these in the course of from two to six months the symptoms all disappear. The temperature gradually rises to normal, the subcutaneous swelling is gradually removed, and the face resumes its normal expression and appearance. If there has been alopecia, the hair grows again. Full strength and energy are regained, and the limbs can once more be freely and actively moved. The mental hebetude is removed, the hallucinations disappear, and actual insanity has in some cases been cured. The total amount of urea in the urine is increased, the red corpuscles increase in number, and if the menopause has not been reached menstruation is re-established. In fact, if no incurable degenerative changes have occurred in the heart or other organ, the patient is restored to health.—*Practitioner*, April, 1901.

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## 16.—ARSENICAL POISONING OCCURRING IN BEER-DRINKERS.

By ERNEST SEPTIMUS REYNOLDS, M.D., F.R.C.P. Lond.,

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Visiting Physician to the Manchester Workhouse Infirmary.

[From paper by Dr. Reynolds, who was the first to trace the recent epidemic in Manchester to its origin :]

It is clear that arsenic is almost certainly a cumulative poison, although some authors say that it is not so. Moreover, it is

a poison which affects both the skin and the respiratory and digestive mucous membranes, the nerve trunks, both sensory and motor, and the muscles (including the heart muscle), and the liver. As regards the sequence of the symptoms Brouardel has clearly laid them down, and I can confirm his statements. The sequence is : (1) digestive symptoms ; (2) laryngeal catarrh, bronchitis, and acute skin symptoms ; (3) disturbances of sensibility ; and (4) motor paralysis (and pigmentation and keratosis). Widal in the Hyères epidemic gives the following actual dates in one of his cases : Feb. 8, gastric disturbance and diarrhœa ; March 4, acute cutaneous eruptions, spasmodic cough, running of the eyes and nose ; March 31, sensory disturbances in the limbs, then some days later paresis of the upper and lower limbs. Health was only restored after one year.

The course of the disease is a slow one. The gastric, coryzal, and laryngo-bronchial symptoms pass off first, then the acute skin lesions, which pass on to the chronic skin lesions, which, I think, will be found to last many months. The erythromelalgia and sensory symptoms are still almost as marked as ever in patients whom we have had under observation for four or five months, and judging from analogy of so-called alcoholic paralysis the motor disturbances will last for from eighteen months to two years before they entirely disappear.

*Mode of death.*—In most of the cases this seems to be from cardiac failure, either quite suddenly or gradually. Some patients have died from paralysis of the diaphragm with secondary broncho-pneumonia, and in one case at least phthisis contributed to the fatal issue.

*Classification of cases.*—The cases may be roughly divided into groups : (1) those with all symptoms fairly well marked ; (2) those with skin lesions principally ; (3) those with cardiac and hepatic lesions principally ; and (4) those with paralytic lesions principally. A careful examination into the history and present state of any case will, however, reveal some concurrent symptoms quite characteristic of arsenical poisoning. Thus in a fair-complexioned woman who had no apparent symptoms but paralysis, which could not be diagnosed from so-called alcoholic paralysis, there was in addition keratosis of the soles of the feet.

*Diagnosis.*—Once the possibility of arsenic poisoning is recognised there is no difficulty whatever in diagnosis. There is no other disease which will produce the same grouping of symptoms. In the early stages it is possible to mistake the condition for measles or scarlet fever, and in the latter for Addison's disease, and in some cases it will be difficult in the present state of our knowledge to say that certain cases cannot be entirely explained by chronic alcoholism. Only a thorough



consideration of the history and full examination of the patient will prevent mistakes being made. In beri-beri there are said to be but few skin lesions.

*Treatment.*—I shall say little on this point, for having entirely stopped the intake of the poison, the treatment becomes merely a matter of dealing with symptoms. One point, however, is of great importance; on account of the alarming heart symptoms from muscle failure no depressing drugs should be given. We must thus avoid potassium iodide, sodium salicylate, antipyrin, exalgin, phenacetin, &c. Small doses of digitalis, with some other diuretic, tonic doses of strychnine, gastric sedatives, carbonate of ammonia, and senega, will probably be required. For the pains we must have recourse to small doses of morphia. The burning sensation in the hands and feet is much relieved by spirit lotion. The other skin lesions must be dealt with *secundum artem*, but this is a subject which I would rather leave to the dermatologists. The treatment of the neuritis does not differ from that which is already well known.—*The Lancet*, January 19, 1901.

## 17.—ARSENIC IN BEER.

By A. H. BAMPTON, M.D., Ilkley.

[From Dr. Bampton's paper :]

Some time in June, 1900, in Ilkley-in-Wharfedale, it was noticed that an unusual number of patients complained of numbness, prickings, formication, and burning pains in hands and feet, and our attention was attracted, on our daily professional rounds, to a number of folk with inflamed eyes who limped painfully along the roads. Many of these sufferers belonged to the working class, and did not consider themselves sufficiently ill to seek medical advice. Those of them who came under my own immediate notice were either Post Office or railway employés, or worked at the local brewery.

At the onset of the epidemic the opinion was hazarded that these cases of peripheral neuritis must be the after-effects of unnoticed and slight attacks of diphtheria. Personally, I confess, that at first I laid to the charge of influenza all these symptoms, the more particularly because of the marked catarrhal head symptoms, persistent pharyngitis, associated with marked weakness of the lower extremities exhibited—a group of symptoms sufficiently like those seen in catarrhal influenza to deceive the very elect. In addition to which I had

under observation at the same time an unusual number of cases of neuritis, in ladies, affecting one limb only, mostly the right arm, all of which had undoubtedly followed attacks of genuine influenza. But, by-and-by, we had quite a number of acute skin lesions to deal with. A man's foot would suddenly become red, hot, and painful, and large bullæ would appear on it (Erythromelalgia). "Herpes" in various parts of the body, and urticarial rashes in July and August, were seen. As some of the cases of peripheral neuritis were thus attacked, to whom the alcoholic habit was attributed, and we further found that beer drinking was a factor common to all these cases—groping rather blindly at the truth—we advised patients to stop beer drinking as a measure of precaution. Fortunately public opinion took our advice and condemned the beer by this time, and drank very little of it; and to this empirical judgment is due the fact that so few of our cases became serious or dangerous to life.

It was well on in November when my attention was called to Dr. Reynolds' discovery of arsenic in Manchester beer. Search was then immediately made for arsenic in our hops, and finding none, the sugar was analysed, and arsenic to the extent of gr. iij. to the lb. was found in it, and subsequently in most of the ales in varying proportion. It appears that brewers' analysts look only for what ought to be in beer, and do not look for extraneous matters as a toxicologist would most surely do. We had, therefore, waited in vain for any guidance from an expert, and it shows how limited is the value of many public analysts' reports. That leads me to remark how insecure is our position with regard to the purity of our foods and drugs. It is notorious that up to quite recently there was not a phosphate of soda on the market that did not contain As—phosphate of soda which we administer to infants and delicate patients as a mild and safe aperient!

*Type 1.*—A.L., employed at the brewery, states that in the summer, "after taking a glass of beer with his dinner, he had pain in his stomach, vomited, and was purged. This occurred again at supper, with which meal he also took beer. He then had some tingling of hands and feet, followed by desquamation, some herpes over abdomen, and intolerable skin irritation at night." Leaving off beer, all these symptoms disappeared, but he broke out in acute general eczema, which yielded to local treatment. I may remark here that double the usual quantity of "glucose" was being used at this time in the brewing, and hence the acute and immediate symptoms manifested. It is possible that one-fifth gr. As was then in a glass of beer, certainly not less than the equivalent of liq. As ℥ vi. (Fowler's sol.).

*Type 2.*—C.V. came under notice for pharyngitis, conjunctivitis, tingling, numbness, and loss of power in hands, feet, and legs, with



dropped big toe and loss of knee jerks. This patient drank beer, but had not the appearance nor the reputation of being a big drinker. C.V. recovered from one attack under iodide of potassium and rest in bed, but relapsed as soon as he resumed work and beer. The second attack was more persistent, but a change of air hastened his recovery. There remains to this day still some dropping of the left big toe. This patient's hands looked hornified (keratosis), and his feet swollen, red, and tender. He suffered from obstinate constipation, and this constipation was a puzzling feature in many other cases, almost negating idea of As.

*Type 3.*—M.R. is seized with violent pain in the left hypochondrium of a persistent character, associated with continued vomiting. The tongue is coated with white fur. The bowels at first purged, but subsequently constipated. There is great cardiac weakness and tendency to syncope. The skin has been noticed to have grown darker in colour of late. After a similar attack in the summer for which no cause could be assigned, the patient had an irritable skin eruption which left brown stains. This patient drank three glasses of beer daily. They kept a cask of ale in the house. I had a specimen examined, and the analyst reported that there was a very appreciable quantity of As present, and this was confirmed by Messrs. Rimmington.

From evidence that we have received, sulphuric acid has been made from arsenical pyrites for many years past, and it is probable that arsenical contamination has to a less extent been present in some brewers' sugar from time to time, whenever the exigencies of the manufacturer prompted, or the custom of the trade permitted, arsenicated sulphuric acid to be supplied. The malt and hops have also been shown not to be above suspicion.

It is a curious circumstance of some significance that the London School of Neurologists have contended that alcoholic neuritis was the manifestation of spirit drinking, and was not often seen in beer drinkers, whilst the Manchester School held that peripheral neuritis was commonly and mostly seen in beer drinkers. Some of the cases of neuritis were probably examples of the compound toxic effect of alcohol and As in influenza in varying proportions. We are getting to recognise more clearly that the human body may have more than one specific germ or toxin at work or at rest, exercising their lethal effect at one and the same time. Similarly to what we see takes place in our gardens, in the soil of which many varieties of both flowers and weeds can grow side by side or follow in successive crops. Again, one toxin may augment the effect of another toxin, just as drugs with similar physiological actions augment each the other's action.—*The Hospital*, May 4, 1901.

## 18.—INDUSTRIAL DANGERS.

[The following is taken from Dr. Harrington's summary in the *American Journal of the Medical Sciences*. The paragraph on Brass Poisoning is omitted here. (See *Retrospect*, vol. cxxii.)]

*Lead poisoning*.—During a single year of hospital service thirty cases of lead poisoning among workmen engaged in making and charging storage batteries were seen by Dr. Talamon (*La Médecine Modern*, February 7, 1900). From the nature of the work the symptoms come on more rapidly and are more acute than with painters, typesetters, and others prone to the affliction. Their work consists chiefly in spreading with their palms minium ("red lead.") and litharge over lead plates. They are required to wash the hands with soap, lye, and acidulated water every half-hour, but the water is not frequently renewed. Many of the men fall victims to acute lead colic within three or four weeks from beginning work.

*Potassium bichromate poisoning*.—In the manufacture of Swedish safety matches a mixture containing potassium chlorate and bichromate is employed; each match-head contains about a half milligramme of the latter salt. The workpeople are exposed to this agent in four different operations, including the boxing of the finished product. The women who do this part of the work in factories in Pomerania have presented for some years cases of more or less severe eczema, with headache and prostration, which were at first attributed to the use of impure paraffin. One of these women was discovered by Wodtke (*Vierteljahrschrift für gerichtliche Medicin, etc.*, 3rd series, xviii., p. 325) to have a perforated septum, a condition very general among the workmen in bichromate factories. Examination of the women engaged in two establishments disclosed fifteen cases of perforation or ulceration of the septum among 126 individuals. In a third factory he found a case of very extensive perforation in a man who prepared the dipping mixture. In only one case was general poisoning observed.

*Arsenic poisoning among aeronauts*.—A number of cases of icterus were observed by Maljean (*Archives de Médecine Militaire*, February, 1900, p. 82) among the balloonists of a regiment of engineers. The cause appeared at first obscure, but was traced by him to the hydrogen gas used for filling the balloons. This is made by the action of ordinary sulphuric acid on commercial zinc, both of which contain arsenic in variable amounts, and so the product contains arseniuretted hydrogen. The impure gas is liberated from the valve of the balloon, but this is not the sole source of danger, for the officers and men have a habit of smelling of the stopcock during the operation of



filling, in order to ascertain when the air in the tubes has been expelled by the gas. The onset is marked by great malaise, headache, nausea, stiffness of the joints, jaundice, and hæmoglobinuria. The symptoms subside in a few days, leaving the patient in a very bad condition of anæmia and pronounced malnutrition. The obvious remedy for the trouble is the employment of better materials or the avoidance of sniffing of the stopcock.

*Vanilla poisoning.*—A number of women engaged in work at a factory in Geneva where vanilla beans are treated for the market have been found to be afflicted with a severe eruption on the hands, forearms, neck and face, accompanied by burning and œdema, and at times furunculosis and moderate pruritus. The menses were more abundant and more frequent. Similar cases have been very common among the women employed at Bordeaux in an establishment where between 20,000 and 30,000 kilos of vanilla beans are assorted, brushed, and bundled annually; but here some additional symptoms have been recorded, including headache, vertigo, insomnia, muscular pain, and irritation of the bladder and vagina. Whether the trouble is due to the minute crystalline needles of vanillin which cover the bean, or to moulds and mites, or to cardol in the oil of the cashew nut, said to be used on vanilla beans for the conferring of an improved appearance, has not yet been satisfactorily determined, but each of the theories has firm adherents—*American Journal of the Medical Sciences, December, 1900.*

### 19.—SOME REMARKS ON THE VALUE OF CITROPHEN AS AN ANTIPYRETIC, ANTIRHEUMATIC, AND ANTINEURALGIC.

By L. FREYBERGER, M.D., M.R.C.P., M.R.C.S.,  
Hon. Physician to the St. Pancras and Northern Dispensary;  
Pathologist and Registrar to the Great Northern  
Central Hospital.

Citrophen is a white crystalline powder, soluble in 200 parts of cold water, and readily soluble in hot water. Its taste is very pleasant, resembling that of citric acid. Chemically, citrophen must be considered to be the citrate of para-phenetidin. In the stomach it is disintegrated into its components, namely, citric acid and para-phenetidin.

The value of citrophen as an *antipyretic* is considerable. The drug acts quickly, and without causing unpleasant by-effects, especially without producing symptoms of collapse. In most

cases 15-grain doses lower the fever  $1\frac{1}{2}$  to 2 degrees within an hour. The reduction of temperature lasts from three to four hours. The return rise is gradual, and the temperature seldom climbs up to its former height. The antipyretic result is even more marked in children, to whom citrophen may be given with impunity. The antipyretic action of citrophen I found to be most pronounced in cases of acute catarrh of the upper air-passages, trachea and bronchi, of broncho-pneumonia, feverish colds, influenza and follicular tonsillitis. In these affections the anti-febrile action of citrophen could be absolutely relied on; two or three doses given at intervals of three to four hours were generally sufficient to reduce the temperature to normal. The only instances where the action of citrophen was less prompt were two cases of acute broncho-pneumonia in children of four and six years of age respectively, where the drug had to be continued for several days before permanent apyrexia was produced. Yet even in these cases the temperature was after two doses reduced from  $102.3^{\circ}$  and  $103^{\circ}$  to  $99.6^{\circ}$  and  $100.4^{\circ}$  respectively; this fall of temperature was accompanied by much sweating, but no symptoms of collapse could be observed. In a case of empyema after measles the drug proved to be powerless.

As an *antirheumatic* in the treatment of acute articular rheumatism, citrophen is decidedly inferior to sodium salicylate and salol, at any rate as far as adults are concerned. I watched its action in a case of rheumatic pericarditis, and in another of acute poly-arthritis, with affection of the mitral valve, but could not convince myself that citrophen had any effect beyond lowering the temperature about  $1^{\circ}$  F. and increasing diuresis; it certainly did not touch the rheumatism, nor did it appreciably lessen the joint pain. Rheumatism in children, however, is benefited by citrophen, as could be observed in three cases—children of five, nine, and twelve years respectively, in whom after a few doses the fever, as well as the pain, was reduced to a minimum. Muscular rheumatism, and rheumatism of the scalp, yield readily to treatment with citrophen. One or two doses are generally sufficient to effect a cure if given at the outset of the affection; if, however, some days have already elapsed before the treatment with citrophen is commenced, then the action of the drug becomes less decided.

As an *antineuralgic*, citrophen is very good indeed. I have tried it in a considerable number of cases of headache, megrim, occipital and frontal neuralgia, and have not been disappointed with its action, which was both quick and persistent. Menstrual headache is relieved almost immediately by a single dose of 15 grains; the effect lasts between three and four hours. When the pain returns, as it will do in some cases, it is



generally much less severe. A second dose of 10 grains is then sufficient to cut short the attack. In a case of recrudescient chronic catarrh of the frontal sinus with much neuralgic pain, great relief was observed after a single dose of 15 grains of citrophen. On the other hand, no improvement followed, nor was it expected, in an inveterate case of trigeminal neuralgia, which had up to then withstood all medical treatment.

For an adult dose 15 grains pro dosi, and 45 to 60 grains per diem will be found sufficient; for children the dose should be proportionately less, according to age. Citrophen may be given to adults in milk or soda-water, and to children in a mixture with syrup of orange and orange-flower water.

Citrophen may be safely recommended as one of the most valuable additions to our none too extensive series of reliable and, at the same time, innocuous antipyretics and anti-neuralgics, and as a useful drug in the treatment of rheumatism in children.—*Treatment, March, 1901.*

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## 20.—HYPODERMOCLYSIS.

[From a leading article in the *Therapeutic Gazette* :]

That the wide employment of hypodermoclysis has again and again saved life cannot be denied. We have in many instances seen apparently hopeless cases saved by its proper application. Not only does it dilute toxic materials in the body in cases of infectious diseases and other forms of poisoning than infection, but it causes the elimination of toxic materials by increasing the flow of urine, and in many instances, in this indirect manner, benefits the general genito-urinary tract by diluting the urine so that it is no longer irritating. As with most therapeutic measures which are greeted with enthusiasm, it has been at various times somewhat abused—that is to say, it has been given to patients who were so ill that no good could be expected from its employment, and then when it failed to do good has had discredit cast upon it. Then, too, it has been abused, in that non-sterile apparatus has been employed, which has resulted in the production of local inflammation; and again, the salt solution has been poured so freely into the subcutaneous tissues that it has practically drowned the patient by being introduced faster than his emunctories could eliminate it. Finally, we know of instances in which the solution has been employed so hot, by a careless nurse, that a local slough has been produced; and again, of other cases in which the fluid was entirely too cold. Hypodermoclysis is not a method of treatment which can be

hurried. The supply of fluid to the subcutaneous tissues ought never to be so free as to produce a huge swelling resembling a hæmatoma. No definite time for the duration of the injection can be named, since a case of hemorrhage on the one hand should receive and can absorb the fluid rapidly for the needs of the body, while a renal case not only does not need it within the next few minutes, but will not absorb it with sufficient rapidity to prevent great subcutaneous swelling unless the flow is slow. Then, too, there can be no doubt, as we have already suggested, that at times too large quantities of fluid are introduced.

It has been recently suggested by Dr. Kemp, of New York, that in children often so small a quantity of liquid as one to two ounces of normal saline solution is sufficient, and that four ounces will often be of value in increasing the urinary flow in adults. It is a noteworthy fact that these injections not only increase the urinary flow as a rule to the extent of the injection, but that they seem to possess a distinct diuretic influence in that the urinary flow is three or four times as great as the quantity actually injected. The best place for the injection is probably in the lateral lumbar region, since this part is not well endowed with sensory nerves, the tissues are lax and can receive a considerable quantity of liquid, and should any local irritation ensue the part is not pressed upon when the patient is lying in bed.

A very common fault in the administration of hypodermoclysis is the employment of water which is not hot enough. There are two ways in which this fault can be avoided: one is by using very hot water in the reservoir, which possesses the disadvantage that should the flow be too rapid the patient may be locally burned; or better still, a section of the tube from the reservoir may be coiled several times in a basin of very hot water, which water may be renewed from time to time, and in this way the fluid, as it flows through the tube, is kept at the proper temperature. It is not necessary, as a rule, to use water in the reservoir above 120 deg.; but the water as it is delivered to the patient should be from 105 deg. to 106 deg.

It is to be recalled that these injections have a very wide clinical application. The following are some of the conditions which they are of value in meeting: Hemorrhage, surgical shock, toxæmia from sepsis or any one of the infectious diseases, puerperal eclampsia, renal disease, diabetic coma, poisoning by the various vegetable alkaloids, snake poisoning, &c. In scarlet fever and diphtheria, and in certain cases of pneumonia with marked toxic symptoms, the injections are without doubt of very great value, as they are also in some cases of suppression of urine from etherisation. The solution which is employed, modified from the formula of Ringer by Locke, as we have



pointed out before, can now be obtained in the form of "concentrated sterile saline," put up in ounce bottles, thoroughly sterilised and sealed, and of such strength that if the contents of one of these bottles is added to a liter of pure water, a normal saline solution is at once at hand. This is very much better than the use of saline tablets, which are often difficult to dissolve, and which not infrequently leave some sediment in the solution. Further than this, this mixture is very much better than the ordinary salt solution made with sodium chloride, or common salt, alone, in that it more closely approximates the normal serum of the blood. Recent physiological researches published in the *American Journal of Physiology* indicate that solutions made of chloride of sodium alone are by no means as harmless as many persons have supposed.—*Therapeutic Gazette*, February 15, 1901.

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## 21.—MIXED FEEDING OF INFANTS.

By JOHN ZAHORSKY, M.D.,

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Washington University, St. Louis, Mo.

[Dr. Zahorsky thus speaks of human milk as an aid to artificial feeding. Whether it is really possible to obtain human milk as suggested may be a matter of opinion.]

Nothing need be said concerning the value of wet-nursing ; it is undoubted. But here attention will be called to the fact that human milk can be furnished temporarily in small quantities by many mothers for other babies than their own. Let it be decided that a small quantity of human milk is desirable. In a city at least some relative or neighbour probably nurses a healthy infant and has more than sufficient breast-milk. For the sake of a needy baby, or for a small financial consideration she will rarely refuse to furnish a few ounces of milk daily. A mother who is advanced for some months in the period of lactation is to be preferred, since her milk is less liable to prove too rich in solid constituents. The milk is obtained from her breast by manipulation, that is, by "milking." One-half to one ounce may thus be readily procured. To obtain it the breast-pump or cupping-glass may also be employed. This milk is put in a clean vessel and added to the artificial food in the baby's bottle. The properties of this milk are both nutritive and therapeutic. Human milk is a powerful stimulant to the digestive and absorptive functions of

the gastro-enteric tract. It seems also to give strength and tonicity to the vascular system; it supplies antitoxic and bactericidal properties to the blood of the infant which struggles with some infectious process. Having these therapeutic principles in mind one can readily deduce certain indications:

(1) *Marasmus*.—The pathology of this disease is still in dispute, although the researches of Fenwick and Baginsky seem to show a degeneration of the epithelium lining the alimentary tract. At best it takes time to effect a cure. The proper feeding, as laid down by Rotch and others, is a food having the proteids and fats well diluted. But in all cases time and care is the important element in treatment. I have found in a few cases that the addition of mother's milk, even in small quantities, to the food very quickly changes the clinical picture to one of improvement. Or the baby may be given mother's milk exclusively for a few days and the artificial food gradually supplied. Or the baby may take the mother's milk and artificial food alternately. The method of mixing these foods may be changed according to indications and depending on the amount obtainable. Personally I prefer to mix the human milk with the artificial food in the bottle, or still better if the baby is permitted to take the breast, let it nurse a little immediately after the ingestion of the food. The following is a brief history of such a case: J. E., aged 2 months, an inmate of the Bethesda Foundling Home, has progressively emaciated for one month. She now weighs about six pounds. The food administered has been cow's milk modified to the formula—proteids, 1; sugar, 7; fat, 2. The stools had been rather frequent, showing undigested masses. The baby was very thin and pale, yellowish in colour. The skin was wrinkled, and the bones prominent; the fontanelle was depressed, the cry very feeble, and the movements slow; no fever existed. The infant was placed on human milk, which was obtained by manipulation from the breast of a young mother. The infant received 2 to 3 ounces every three hours for two days; it was then fed on modified cow's milk and human milk alternately for three days. Afterwards the baby received the human milk once or twice daily. In one week she gained ten ounces. Although more human milk was not obtainable, the baby did very well and is now healthy.

(2) *Gastro-enteric infection*.—We do not dread the infection of the gastro-enteric contents so much as the malnutrition following. Very frequently after successfully ridding the infected alimentary tract of the offending micro-organisms, the infant fails to thrive. The injury done to the intestinal lining is not repaired, and nutrition progressively fails. Or a severe



form of cholera infantum is carried through the storm. The baby seems much better, but yet no food can be had to agree. Fever may develop and the patient succumbs to septicæmia. In these conditions human milk, even in small doses, has a powerful therapeutic effect. It stimulates the diseased epithelial cells so that they again imbibe nourishment; it strengthens the body to resist the onslaught of infection. Given a case of acute gastro-enteric infection of great severity, the ordinary measures must be instituted. The alimentary tract should be thoroughly evacuated, and water administered in large quantities. For two or three days rice water or barley water may be safely given, but then the question of additional food arises. The answer is, add a little human milk to the rice water. Gradually increase the amount of human milk, carefully noting its effect, and if symptoms improve sterile cow's milk may be gradually substituted for the human milk. If egg water is used during the diarrhœa the human milk can be added to this. The following brief history illustrates this: Baby R., aged 3 months, was put on condensed milk since it was one month old; a few days after some symptoms of indigestion appeared. To-day, July 20, 1900, the infant has had about twenty watery passages in a few hours; the temperature is 102 deg. F.; the pulse rapid; skin very dry and pale and somewhat wrinkled; the eyes appear sunken and staring—in short, a typical picture of cholera infantum. The infant was immediately taken from the condensed milk and placed on ice water. The colon was irrigated, and plenty of water administered. Small doses of calomel were prescribed as soon as the violent peristalsis was somewhat diminished. The next day the patient seemed better; the rice water was continued for another day, then whey was gradually added to the rice water. But after some days no improvement in the nutrition was noticed and the stools were still frequent. The mother was directed to add some mother's milk to the whey. A neighbour with a ten-months baby furnished about 3 ounces and a relative of one patient furnished 3 or 4 ounces daily; this was obtained in  $\frac{1}{2}$ -ounce quantities and added to the whey in the bottle. The nutrition of the infant improved rapidly, and in about ten days it was placed on modified cow's milk.

(3) *Rickets with tetany*.—The common cases of rickets can be successfully treated by artificial foods and some medicament; but those forms of rickets which are accompanied by great irritability of the nervous system, as expressed by laryngospasm, tetany, or eclampsia, need some other food. Here again a temporary change to human milk, or the addition of human milk to the artificial food greatly enhances the probability of cure. Having given an antispasmodic, preferably chloral,

a nursing mother should be sought who will furnish at least a few ounces of milk daily. Of course if a wet nurse can be obtained, so much the better, but wet nurses cannot always be found. The following exemplifies this: G., a girl, weight at birth  $8\frac{1}{4}$  lb. She obtained the breast until three weeks old, then was put on Walker-Gordon laboratory milk; she was an inmate of the Bethesda Foundling Home; she lost flesh, and at three months weighed about as much as at birth; she had thrush and digestive disturbances; she cried very much; when about four months old she was seized with convulsive and tetanoid movements. At times some difficulty in breathing and an inspiratory stridor were observed; infant appeared pale, weak, and emaciated; the bones were very soft; there was much sweating about the head, and other signs of beginning rickets existed. A dose of castor oil was given; then 3 or 4 ounces of human milk was given every three or four hours in a bottle; the tetanoid seizures disappeared in two days, and the child began to thrive. The same food that was previously given was used again alternately with the human milk; in ten days the infant had gained about 10 ounces. After two weeks the human milk was gradually discontinued, but the infant continued to thrive.

(4) *Scurvy*.—In this disease also, if symptoms are urgent, a little mother's milk might be of incalculable benefit. In addition to fruit juices and fresh cow's milk or white of egg, a little human milk might be obtained and added to the artificial food; although I have not as yet had the opportunity to test this method, it offers theoretical advantages. These are the conditions in which a little human milk may have a powerful therapeutic effect. But any disease which leaves the nutritive powers in a feeble state might stand for an indication for its use.

While I have added nothing new to the known qualities of human milk, I trust that in place of a wet nurse my suggestion to employ a little human milk may be of some value to the practitioner who finds difficulty in adjusting artificial foods to the diseases mentioned.—*Pediatrics*, March 15, 1901.

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## 22.—PATHOGENIC MICROBES IN MILK.

[A leading article in the *Medical News*.]

A tendency to the development of better dairy sanitation has been shown by the appearance of a number of articles during the last three or four years on the relations of milk to the spread of disease. Although belief in such a relationship is by



no means new, the scientific consideration of the subject can hardly be said to have begun more than a dozen years ago. When one considers the important position which this article of human food occupies, especially in connection with the young in whom milk constitutes the chief nutriment, the need of investigation assumes clearer significance. In New York City alone it has been estimated that considerably more than seven million gallons of milk are consumed in a year. And, now that it has been incontestably established that milk may serve in the spread of disease-inciting micro-organisms, newer and more protecting measures should be enforced to ensure narrower limitations of this occurrence.

Milk as it exists in the udder of a healthy cow is practically germ-free, but it is a matter of common experience that all milk, however carefully it may be collected, however clean and aseptic may be the vessels into which it is received, will on standing, or after being submitted to the influences which are ordinarily at work between the time of collection and distribution, be found to teem with bacteria often of many kinds. For the most part, fortunately enough in this, the micro-organisms found are largely saprophytes. Of these, bacilli of the so-called colon and proteus groups are apparently the most common contaminations. It is to the rapid multiplication of one or the other of these that milk "goes bad." However normal in appearance, taste and chemical analysis, the milk as commonly distributed to the consumers may contain hundreds of thousands of bacteria per cubic millimeter. By their numbers and by their products of metabolism the common saprophytic species alone have often been shown to induce disease, especially in that fragile organism, the infant. If the latter is true of milk containing, what has incorrectly been said to be, a normal flora, the gravity of the whole question is then further emphasised by the observations of various investigators who have repeatedly found pathogenic microbes in milk, such as is usually distributed for consumption. Among the diseases about which there is evidence showing that the exciting factor was transmitted through milk may be mentioned tuberculosis, scarlet and typhoid fevers, diphtheria, cholera, anthrax, and several others.

The statements of various observers as to the frequency of the tubercle bacillus in milk are often divergent; thus the percentages given vary from 14 to over 60 per cent. Whilst Obermuller found that 61 per cent. of the Berlin milk tested contained tubercle bacilli, later investigations show that the percentage is usually considerably lower. Rabinowitsch and Klemperer (*Ztsch. f. Hygiene*, 1899, p. 137) more recently found only 28 per cent. of their samples of the Berlin milk to be

similarly contaminated. In Liverpool and Manchester, in England, tubercle bacilli were found only in 2.8 per cent. in samples collected in the first-named city, and in 5.55 per cent. in those of the last-named city (*Lancet*, Jan. 20, 1900). On the other hand, milk collected from 16 Cambridgeshire dairies by Kanthack and Sladen contained them in over 56 per cent. of the samples (*Lancet*, Jan. 14, 1899). Just recently, Klein (*Journal of Hygiene*, Jan. 1901) demonstrated tubercle bacilli in 7 per cent. of the samples of "country milk" examined. In almost all of these investigations the milk probably was obtained from cows with udder tuberculosis; for the experimental researches of the Royal Commission on Tuberculosis tend to show that the udder must be tuberculous before the milk becomes infectious.

There is one extremely interesting point in connection with the results of comparative tests of the sediment and cream of the same samples of milk; Kanthack and Sladen found that the cream was ordinarily considerably more infective than the sediment. An explanation of this is probably found in the studies of Freeman (*Arch. of Pediatrics*, 1899), who found that as the cream rises to the surface it carries with it more than 90 per cent. of the contained bacteria, leaving the milk relatively free from micro-organisms.

In the case of typhoid fever and scarlet fever the demonstration of the relationship of milk to disease is largely based on circumstantial evidence; as yet bacterial proofs are still wanting. Notwithstanding, the proofs are convincing enough, as any one will find who takes the trouble to go over carefully the facts relating to the various epidemics for which the milk has been held responsible. As far as diphtheria is concerned the evidence is complete; diphtheria bacilli have been found in milk. Thus Klein found this organism once in 100 specimens taken at random. That cholera may be spread by milk we have every reason to believe. Gaffky, who has written on cholera in Egypt and India, states that it is not infrequently a means of dissemination. An epidemic of cholera on ship-board reported by Simpson in 1887 is conclusive in this respect. Fortunately, through the stimulating influence and energy of a small group of scientific investigations of milk in its hygienic applications, some of the larger dairies of the country have already taken important steps towards the realisation of a safe and clean milk; those who have not yet taken precautions to safeguard the public health in this connection should be compelled to do so to the fullest measure by adequate laws.—*Medical News*, March, 1901.



## DISEASES OF THE NERVOUS SYSTEM.

## 23.—THE EARLY DIAGNOSIS OF MENTAL DISORDER.

By Professor C. F. MACDONALD,

New York University, formerly President of the New York State Commission in Lunacy.

Dr. MacDonald contributes to the first number of *American Medicine*, published on April 6, 1901, a paper referring to the important subject of the early diagnosis of insanity. In the majority of cases, as he points out, the responsibility of recognising insanity in its early stages falls upon the family physician. While the occurrence of insanity in a family is fraught with serious, painful, and distressing circumstances to patient and relatives, to the community its continued increase means the provision of large public asylums and an increased expenditure of public money for the care and treatment of the insane. Thus the State of New York has at the present time, in round numbers, 22,000 insane persons under care, which implies an original capital outlay of 20,000,000 dollars for hospitals and their equipments, and an annual expenditure of 5,000,000 dollars for the care and treatment of the inmates. A considerable number of cases in the early stages of insanity may, especially among the wealthy classes, be properly and safely treated at home, provided they are in competent medical hands. Insanity is a disease of gradual onset in most instances and the prodromal stage—that of alteration of conduct and character in contra-distinction to that of actual mental aberration—may last for weeks or months. Relatives and friends are often the first to detect slight changes in character and lapses from the normal self, though they often make the mistake of attributing these to mere eccentricity or else they endeavour to conceal them or to make light of them in their ignorance. The prodromal symptoms of insanity are both somatic and psychical. The somatic symptoms include insomnia and headache, tinnitus aurium and vertigo, pavor nocturnus, feebleness of circulation in the extremities, anorexia, and constipation. The co-existence of persistent insomnia, constipation and headache should always be regarded as serious, especially if they are associated with general apathy or mental irritability in a person previously active and well. The psychical symptoms may assume the form of undue exaltation

and loquacity, levity of conduct in a person hitherto steady, depression of spirits, marked introspectiveness, hypersensitiveness of conscience, morbid aversion to friends, undue suspicion towards others, suicidal longings, and persistent forebodings of evil. Any lapses from morality and decency in persons previously steady and well-behaved constitute warnings of a graver kind. If other predisposing factors co-exist, such as alcoholic or drug habits, cranial injury, sunstroke, epilepsy, prolonged mental anxiety, or recent ill-health, skilled medical advice should at once be sought. The presence of alcoholic intoxication, of delirium tremens, or the occurrence of meningitis or sunstroke, must be kept in mind as possibly masking or even simulating an attack of insanity. If hallucinations are present, and especially if delusions are associated therewith, the diagnosis of insanity would be confirmed. Special attention should be paid to the facial expression, the appearance and reaction of the pupils, the speech and handwriting, many of which are characteristically influenced in the early stages of mental disease. The importance of relieving insomnia, particularly if it is associated with slight mental depression and constipation, can hardly be over-estimated. Insomnia easily becomes a habit, and if allowed to go on unchecked it produces cerebral exhaustion and predisposes to mental disease. This threefold group of symptoms—viz., insomnia, with mental depression and constipation, is so common at the onset of the acute psychoses that the experienced physician will anticipate the risk and seek by early treatment to avert the threatened attack.—*The Lancet*, May 4, 1901.

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#### 24.—REST IN MENTAL AND NERVOUS DISEASES.

By MM. PAUL GARNIER and PAUL COLOLIAN.

The authors (*Gaz. des Hôp.*, October 9, 1900) commence by inquiring into what conditions will confinement to bed be useful, and conclude that it should be employed in cases of insanity and in nervous diseases. It is required in cases suffering from melancholia, because there often exist symptoms, such as cerebral anæmia, cyanosis, œdema of the extremities, circulatory, cardiac, respiratory and gastric troubles, anorexia, refusal of food, constipation, and ideas of suicide and mutilation, which can only be relieved by rest in bed; and experience proves that in melancholia and melancholic conditions confinement to bed gives physiologically and clinically the happiest results.



In maniacal conditions rest in bed is at the present time the method of treatment in Germany, Switzerland, Russia, and Austria, and those who have made use of it are unanimous in proclaiming that confinement to bed moderates furious manifestations and calms pain. On the other hand, there is no doubt that maniacal patients have an imperious want of movement, and it is convenient to allow them to produce these motor discharges. The authors recommend a treatment which combines these two methods. They allow the patient to remain in bed for fifteen or twenty days until the stormy time has passed away. The attendants should only intervene in case the patient gets out of bed. At the end of this time he should have a daily walk in the open air for an hour to an hour and a half at the commencement, the time being gradually prolonged until the patient is able to remain out of doors all the afternoon. If the paroxysms are reproduced the walk is stopped. In acute delirium, acute hallucinatory delirium, maniacal conditions, alcoholic delirium, in morphinism, in states of agitation, and in chronic systematic delirium, confinement to bed has happy results.

As regards general paralytics, in the majority of cases confinement to bed does more harm than good. In a few cases, such as those in which there is great depression, unclean habits, and confusion, rest in bed may be beneficial, but the patients will require to be carefully supervised.

In nervous diseases there is no doubt that rest in bed would be of much service, but unfortunately it is much neglected except in grave forms of disease. As regards epilepsy, Neisser extols the benefits that rest in bed procures for epileptics. He says that the attacks diminish in number and intensity, and the patients increase in weight. The authors, however, do not recommend it except in cases in which there are frequent attacks. As regards epileptic mania, it is known that the muscular strength is enormously developed, and it would be an abuse of the treatment to keep such a patient in bed. Such patients require to be kept in a padded room with a mattress on the floor during the time of their excitement. They become calm more quickly, and solitude does not exasperate them. In minor degrees of excitement confinement to bed may be useful, but there must be constant supervision.

Confinement to bed in hysteria is applicable in slight as well as in severe cases, and renders undeniable services. Their physical and psychical condition requires repose, and it will be found that their general nutrition, their circulation, and their respiration will improve by being kept in bed. This treatment cannot, however, be carried out in the house of the patient, so he must be isolated and kept under the control of a strict nurse.

Since the time that Weir Mitchell recommended it, severe forms of neurasthenia have been treated by rest in bed. There is no doubt of the efficacy of this treatment, for numerous cases so treated are on record. Rest in bed combined with isolation of the patient is now the classical treatment in very severe forms of neurasthenia ; but it is astonishing that no one has thought of applying it to minor forms of neurasthenia. Such patients have been ordered walking, exercise of various kinds, and amusements. They suffer from general asthenia, and, although they do get well, this does not occur until several years have passed. If rest in bed is ordered, cure is much more rapid. In these slight forms it is not necessary to keep the patient in bed all the day ; but, according to the intensity of the symptoms, the stay in bed must be more or less prolonged. In a mild form fourteen to sixteen hours of the twenty-four should be spent in bed. In the severe forms rest in bed must be absolute and prolonged ; he must not talk, read, or write ; the brain, the muscles, in fact the whole organism, must have rest. In this way the nervous centres will be repaired and the psychomotor excitement lessened. Moral treatment must not be forgotten.—*Abstract in Treatment, December, 1900.*

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## 25.—POST-OPERATIVE INSANITY.

[A leading article in the *Therapeutic Gazette* :]

It is a well recognised fact in surgery that in both major and minor operations in a small percentage of cases there develops a condition of mental confusion, often accompanied by restlessness, and sometimes by hallucinations or even by acute mania. This was observed as far back as the sixteenth century, and was ascribed by many of the older writers to the effects of alcoholism. The circumstance that these disturbances or perversions of cerebral activity are at times permanent makes an investigation as to their cause, their frequency, and their preventability a matter of prime importance.

The literature upon the subject is now sufficiently comprehensive to justify certain conclusions in regard to this subject. First, as to the frequency of post-operative insanity : Werth notes that it occurred in six of three hundred cases subjected to gynæcological operation. Weiss records seven instances of post-operative delirium in 700 operations. Denis, as the result of a statistical study, based especially on gynæcological practice, believes that post-operative psychoses, occur in about 2.5 per cent. of cases. Croom, of a thousand operations, notes four cases of mental disturbance.



If all cases of delirium, melancholia, and other mental disturbances following surgical intervention are to be classed as post-operative, doubtless a percentage considerably larger than is noted in the foregoing reports should be recorded. It is well known that heavy drinkers are extremely liable to an outbreak of delirium tremens subsequent either to an accidental wound or an operative procedure. Moreover, there are certain drugs which are especially prone to cause such disturbances, and among these may be named iodoform, which has so often caused cerebral disturbances that some surgeons have asserted that it is invariably the etiological factor in post-operative insanity that cannot otherwise be accounted for. The absorption of ptomaines or of septic material from infected wounds may occasion psychical disturbances quite independent of operation, while organic diseases of the kidneys, of the intestinal tract, or of the central nervous system, may first manifest themselves after operative procedure, and by acting upon the cerebrum may occasion perversions which have too often been attributed to the operation itself. If these well known causes of the loss of mental equilibrium be excluded, there remains a very small percentage of cases in which there will develop after operation a usually temporary loss of mental balance, which can only be ascribed to the psychical shock of the operation.

It does not appear that the more formidable operations produce a greater tendency to such disturbances. They are particularly likely to follow operations upon the eye, and are doubtless due in part to the fear or apprehension of the patient preceding the operation, and possibly to the confinement in the dark which such operations necessarily entail. Also it is probable that the frequency of post-operative insanity after operations upon the eye is due to the fact that many of these patients are well advanced in years and are suffering from senile degenerative processes.

Engelhardt, as the result of an exhaustive study of this subject, concludes that post-operative psychoses develop most frequently in those predisposed by heredity, chronic intoxication, age, or anxiety and fright. The shock and exhaustion incident to operation can be regarded at most as the exciting causes in those with distinct predisposition. There are, however, exceptional cases which cannot be well accounted for.

As for the therapeutic indications, care in the use of iodoform, the skilful administration of anæsthetics, attention to the condition of the alimentary tract and of the kidneys, and some attention to allaying the terror with which many patients look forward to anæsthesia and operations, represent practically the only means at our disposal by which this post-operative complication may be avoided.—*Therapeutic Gazette*, March 15, 1901.

## 26.—PROGNOSIS OF CEREBRAL DISEASE IN CHILDHOOD.

By Professor OPPENHEIM, Berlin.

During the past ten years the author had had under treatment a large number of cases of cerebral disease in children between eight and thirteen years of age which in their symptom resembled tumours of the motor region, a diagnosis that was confirmed by others than himself, and although operation was seriously discussed, recovery unexpectedly took place under or without internal treatment alone. There was a boy, aged 11 years, of good family, and previously healthy, who in the autumn of 1894 began to have frontal and parietal headache and vomiting. In January, 1895, there were convulsions, twitching of the right side of the face, the head and eyes being drawn to the right, with twitchings in the right arm. During the attack there was loss of speech, but not of consciousness. These attacks were repeated twenty times during the year, were mostly similar in kind, but with occasional paræsthesia; frequently the twitchings attacked the whole of the right side, they were followed by loss of consciousness, and later by permanent paresis and difficulty of speech. In March, 1895, the boy looked ill, complained of pain in the right frontal region, with tenderness on percussion; there was optic neuritis, with paresis of the right facial and of the right arm. Sensation was dull in the right arm, and there was slight motor aphasia. The treatment consisted in iodide and bromide preparations. In March and April there were still severe attacks, with complete right hemiplegia and aphasia. Towards the end of April, however, improvement began, which was well advanced by March, 1896, and which still continued. Case 2 was very similar, and large doses of pot. iod. had been prescribed. Case 3 was a boy, aged 10, whose father had died of disease of the lungs. The symptoms were very similar to those of the two preceding cases, and iodide was given. Later on unexpected improvement set in and continued. Case 4 was similar, and was treated in the polyclinic. Two other cases had also been seen in which surprising recoveries took place. In all the cases tumour of the brain was suspected, and syphilitic disease could be excluded in all. In two of the cases in which internal treatment was followed by no result, operation was seriously discussed, but still recovery unexpectedly took place. He did not believe the disease was one of solitary tubercle with fatty degeneration, or of chronic inflammation, as the symptoms did not agree with such an



assumption. Finally, there remained only the hypothetic assumption of a chronic encephalitis with a tendency to recovery such as had been already discussed by Strumpell. He was inclined to the view of a form of tuberculosis which might be described as localised meningitic encephalitis such as had been observed in adults. It had been a question whether these would form the whole disease in children, and whether these patches could retrocede and cicatrise. Obductions had answered these questions affirmatively, and recent observations had shown that such tuberculous disease could be present without any trace of the affection being found elsewhere.—*Report in the Medical Press and Circular, March 27, 1901.*

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## 27.—INSOMNIA.

By SIR JAMES SAWYER, M.D. Lond., F.R.C.P., F.R.S. Edin.,  
Consulting Physician to the Queen's Hospital, Birmingham.

Let me now offer some practical observations, arising from my experience in practice as a physician, concerning the etiology and management of the malady insomnia. Absent or imperfect sleep, inability to sleep at all, or at a convenient time, or long enough, without the aid of drugs, is a frequent consequence or complication of numerous and varied conditions of disease.

*"Intrinsic" insomnia.*—There is a simple inability to sleep, which you will often be required to cure—a kind of insomnia which may be called for the sake of simplicity, but perhaps scarcely with strict truth, *insomnia per se*. This is a kind of wakefulness for which we cannot discover an objective or obvious physical cause; it is a kind of wakefulness which seems to depend upon an inability of the brain and nervous system generally to adapt themselves to the conditions which are necessary for sleep. We meet with this disorder more in private than in hospital practice. It occurs mostly in persons who are members of what are known as the upper and upper middle classes. It occurs mostly in persons of high mental endowment and of neurotic temperament. The malady is of extreme importance, and, happily, if its causes be understood and judiciously corrected and controlled, there are few affections which are more within the sphere of curative therapeutics. I think I can show you how to unravel the complex causes and discover the successful treatment of this kind of insomnia.

*Classification of "intrinsic" insomnia.*—The causes and the course of particular instances of insomnia present some striking differences. You must know these differences, and be ready to recognise them, for the knowledge of them clears up alike the therapeutics and the prognosis of individual cases of the malady. I have found it to be convenient in practice to arrange the different clinical varieties of insomnia into groups, in which the cause of the affection is the principle of division. These groups I call respectively the *psychic*, the *toxic*, and the *senile*. There are causes of insomnia which we may fairly regard as acting primarily in sustaining cerebral activity, and with it, and in consequence of it, relative cerebral hyperæmia, which hyperæmia becomes a contributory cause of the cells keeping awake. In some other cases of insomnia I think we may regard the malady as arising primarily in a perversion of the cerebral blood supply. Any cause which prevents the brain from becoming sufficiently relatively anæmic for sleep will produce sleeplessness. Any ingested agent which sustains cerebral hyperæmia, or any pathological change which impairs sufficiently the contractility of the smaller cerebral arteries, may prevent wholly, or in part, the occurrence of such a degree and extent of cerebral anæmia as is required for the production of sleep, and without which sleep cannot be. So there are causes of insomnia which act primarily in exciting and in sustaining a relative cerebral hyperæmia, and with it, and in consequence of it, a cerebral activity which is wakeful. Take due pains in practice to analyse the causation of each particular case of insomnia. When you make such analysis you will find that in some cases of sleeplessness, as in the psychic group, undue and protracted cerebral activity is the primary vice, and that in others, as in the toxic and senile varieties, relative cerebral hyperæmia is the initial error, and wakeful cerebral action its direct consequence.

(1) *Psychic insomnia.*—In my experience the subjects of the psychic variety of insomnia are mostly men, and almost invariably men of the temperament which is known as the nervous temperament. I advise you to study temperaments. Their recognition is of much value in diagnosis, in prognosis, and in therapeutics. A temperament may be defined as "that individual peculiarity of physical organisation by which the manner of acting, feeling, and thinking of every person is permanently affected," and the nervous temperament is marked by great sensitiveness and activity of the nervous system. In psychic insomnia a depressing emotional shock, as great grief at the death of a beloved friend, will sometimes produce the malady suddenly; so produced, the sleeplessness may become a persistent trouble, which yields only to judicious therapeutic procedures. In other cases, and more commonly, the insomnia



has only arisen after prolonged mental strain, as that which a student may undergo in over-reading for an examination, as that of continued financial anxiety, or that of arduous and sustained literary composition. It would appear that sleeplessness did not occur until there arose from exhaustion partial or complete vasomotor paralysis of the intracranial blood vessels; it arose when the arterioles of the brain had no longer that contractility without which sleep is impossible. In these forms of insomnia unnatural excitation of the cerebral cells is probably the initial fault. This point of view gives the best working hypothesis for our treatment.

(2) *Toxic insomnia*.—In the toxic variety of insomnia the cause of the sleeplessness acts primarily upon the blood vessels of the brain, giving rise to some degree of arterial hyperæmia. The poisons with which we have here to do are not lethal poisons, but milder noxious agents which produce abnormal manifestations in the living body. Tobacco, alcohol, tea and coffee are the external poisons which most frequently cause sleeplessness, while the internal or autogenetic poisons are certain waste products of tissue metamorphosis which accumulate in the bodies of gouty persons or of those whose kidneys are inadequate. Possibly some other forms of auto-intoxication may be found to cause insomnia. Perhaps insomnia may sometimes be a neurosis having its origin in toxic absorptions by the gastro-intestinal tract. Insomnia may come and go with constipation, and the explanation of this association may be a toxic one. With regard to the smoking of tobacco, many a man cannot sleep either sufficiently or soundly because he smokes excessively. Smokers often find by their own experience that they sleep badly if they smoke more than their usual quantity of tobacco, or if they smoke tobacco of a stronger kind than that to which they are accustomed. So a smoker who suffers from insomnia may find the cure of his sleeplessness in the restriction of his smoking. He need not give up, nor shorten, nor change his work, nor need he change his "surroundings"; if he restrict his smoking he soon sleeps well. Similarly, it is true of snuff-taking in relation to insomnia. Similarly, too, alcohol causes insomnia. Short, by far, of what is usually called alcoholism, we often meet with cases of insomnia in which alcohol alone is the cause of shortened and disturbed sleep. Again, the effects of the consumption of tea and coffee in causing sleeplessness are well known. Green tea and black tea are powerful cerebral stimulants, exciting the mental faculties and cerebral circulation, and tending to prevent sleep. Coffee, too, is a cerebral stimulant and anti-soporific. Some people are extremely susceptible to the sleep-preventing effects of tea and coffee. In all cases of bad sleeping you should make sure that

tea or coffee is not taken to excess or near bed-time. In gouty persons, quite apart from their gouty pains, there may be some insomnia, of a kind which is probably toxic in its causation. So, also, in a patient whose kidneys are failing, who has renal inadequacy. Insomnia so caused is not severe, and it is rarely complete. There is slumber rather than sleep. There is restlessness, perhaps some excessive irritability to certain external impressions, short and broken sleep, and what may be called superficial sleep, rather than prolonged wakefulness. In this connection I may remind you that you should observe the tension of your patient's pulse. Insomnia in such cases is likely to be due to the maintenance of a state of high tension in the cerebral arteries, the tension in them not falling sufficiently for prolonged, deep, and dreamless sleep. In practice you will find the causation of many of these cases of insomnia, and you will find sound therapeutic indications, too, in the signs of the gouty diathesis or in the discovery of albuminuria.

(3) *Senile insomnia*.—As I have already told you, there is a senile form of insomnia. The broken and short sleep of many old persons is mainly, if not entirely, the result of senile degeneration of the smaller cerebral arteries.—*British Medical Journal*, December 1, 1900.

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## 28.—THE FORMS OF COMA IN CEREBRAL HEMORRHAGE.

By Dr. GEE.

Physician to St. Bartholomew's Hospital, London.

[From a clinical lecture reported by Dr. Horder. The details of five cases are omitted.]

Coma in cerebral hemorrhage sets in in three ways :—(1) Apoplexy, (2) ingravescent coma, and (3) recurrent coma.

(1) *Apoplexy*.—A much-perverted word, as in the expression “pulmonary apoplexy,” a very strange deviation. In the Greek it meant stunned, by a blow from within in this case, not from without. The animal functions cease suddenly; the vital functions continue. Now this is what happens in epilepsy, and the rough distinction between apoplexy and epilepsy is that, although there is sudden deep coma in both, in apoplexy the patient lies still, in epilepsy the limbs are agitated by convulsive movements. Syncope is sudden loss of consciousness with failure of the circulation, and it is assumed that the failure of circulation occurs first, and the coma follows. So much for the meaning of apoplexy—coma coming on suddenly which is not



epilepsy and not syncope. If we use apoplexy in this strict sense it is a very uncommon thing.

(2) *Ingravescent coma*.—This is the most usual manner in which coma in cerebral hemorrhage sets in. It is similar to the surgical cases where symptoms of “compression” follow those of “concussion”; the patient recovers from the shock and then becomes comatose. I believe in surgical cases of this kind the bleeding is usually from the middle meningeal artery; in medical cases the bleeding is usually from some branch of the middle cerebral artery. In this form, then, something occurs which is not coma; there is recovery from this, and then the patient becomes more and more comatose. As to the primary symptoms, the commonest is (*a*) sudden pain, often violent, in the head. Another common symptom is (*b*) vomiting. A third is (*c*) paralysis, most often hemiplegia. The paralysis may be more local than a hemiplegia: one limb, or the face alone, or the eyes alone (oculo-motor palsy, including conjugate deviation), drooping of the eyelid only, or lateral deviation of the face to one side, or of the tongue. These local forms of palsy are rather uncommon, but any of them may occur. A not very uncommon symptom is (*d*) aphasia. The patient may swoon, that is, there may be (*e*) syncope, which is recovered from necessarily. Lastly, there may be (*f*) temporary coma; the patient “feels giddy,” or worse. He recovers from this, seems to mend, then the fatal coma sets in and deepens. This fatal coma usually follows within an hour, and is due to the same hemorrhage which produced the initial symptom still going on. I say this because the interval between the first and fatal coma may be longer—even up to weeks, and it is inconceivable then that the hemorrhage is going on all the time; it is due to another hemorrhage; that is, the coma is not *ingravescent* but:

(3) *Recurrent coma*.—Just as *ingravescent* coma is quite typical of cerebral hemorrhage, so is recurrent coma, only this form is much less common. [The lecturer then gives details of a case.] Let me repeat wherein the interest of the case lay. The coma was both *ingravescent* and recurrent, and the diagnosis was therefore easy. The patient never completely recovered from the first attack. This is not always so; patients sometimes completely recover. These slight attacks of cerebral hemorrhage are not at all uncommon before the fatal attack. It is very important to warn the patient of his narrow escape. If he is a wise man and follows your advice, he may live to the usual term of his days; a moderate diet, largely vegetable, and strict abstinence from alcohol will give him his best chance.—*St. Bartholomew's Hospital Journal*, December, 1900.

## 29.—CEREBRO-SPINAL MENINGITIS TREATED BY REPEATED LUMBAR PUNCTURE.

By HENRY KOPLIK, M.D., of New York,  
Attending Physician in Charge of the Children's Ward,  
Mt. Sinai Hospital, New York.

[The following is taken from Dr. Koplik's paper. The meningitis was shown to be due to the Weichselbaum-Jaeger diplococcus. Four of the cases recovered :]

*Case 1.*—Lumbar puncture on admission; 2 c.c., turbid; eighth day of disease. Tenth day, 12 c.c., turbid and flaky; fluid did not flow. Thirteenth day, 10 c.c., turbid. *Case 2.*—Lumbar puncture on admission; nineteenth day of disease; 15 c.c., turbid. Twenty-fourth day, 10 c.c., turbid. *Case 3.*—Lumbar puncture on fifth day of disease; 40 c.c., cloudy, turbid fluid withdrawn. Sixteenth day, 15 c.c., opalescent, less turbid. Twenty-eighth day, 35 c.c., opalescent fluid. *Case 4.*—Lumbar puncture sixth day of disease, 50 c.c., cloudy serum withdrawn. Ninth day, 3 c.c. withdrawn. Nineteenth day, 10 c.c., turbid, higher up. Twenty-fourth day, 30 c.c., turbid fluid. Thirty-sixth day, 16 c.c., turbid fluid. *Case 5.*—Lumbar puncture on ninth day of disease; 25 c.c., great pressure, turbid. Thirty-seventh day, 5 c.c., slightly turbid. Spread from nose, diplococci decolourised with Gram.

The treatment of cerebro-spinal meningitis has hitherto been a palliative one. Even to-day we have no specific remedy; we know that the prognosis in the form of disease which is the theme of this paper is much better than that of the pneumococcus form. We can do much for the patients. The general treatment is first directed toward eliminating the poison and, if possible, limiting the exudate. For this in all cases we give iodide of potassium in very liberal doses. We do this on the same lines that we would in a chest effusion or a subacute exudative process in the lung. We treat the fever with sponging. In two of the cases of this series the patients found great comfort in baths at 105 deg. F. Especially was the benefit noted when chills and pain in the extremities were harassing symptoms. Netter mentioned this method of treating these cases in the recent International Medical Congress. Aufrecht has advocated warm baths. There are other minor methods which have been pursued in these cases; they include the ice helmet for the headaches; hypnotics for the delirium, and the mercurial cathartics at regular intervals to counteract the constipation. In all this there is nothing but what has been done all along for these cases. In this series of cases, however, we have pursued a method of treatment—that of repeated lumbar puncture—which is directed more especially toward



relieving symptoms due to the accumulation of exudate in the subarachnoid space and about the brain and cord. We certainly can justly trace symptoms, such as persistent headache, somnolence, coma, delirium, convulsions, to accumulation of fluid in and about the brain and cord, and to a certain amount of toxæmia resulting from the absorption of inflammatory products. Repeated chills also may fairly be traced to purulent accumulation and renewed absorption of infectious material from the exudate. The mechanical relief of conditions of increasing pressure and diminution of gross amount of infectious material is certainly indicated in cerebrospinal meningitis of the variety described in this paper, just as it would be in a pleurisy with effusion or a pericarditis should symptoms of pressure arise. This was done systematically on indications in all the patients of this paper. The lumbar puncture was carried out with all the details of antisepsis. Most of the patients were punctured three times in the course of the disease, and one more frequently. There was no routine in the procedure, but each case was studied, and when symptoms of pressure or accumulation of exudate appeared the puncture was made. The indications were continuous headache, accompanied by periods of somnolence and delirium, repeated chills with a sharp rise of temperature, an increase in the rigidity or opisthotonus, increasing or continued coma. If the immediate effects of puncture were favourable, the procedure was repeated if there was an exacerbation of the symptoms. If continued improvement followed puncture, the patient was no longer disturbed. In this conservative way, no ill effects of this method of treatment were observed.

In one patient the effects of puncture were remarkable; the patient upon exacerbation of symptoms requested that the procedure be repeated. The puncture showed that in some cases the fluid was under great tension, and would flow from the cannula with a spurt so that quite a quantity could be withdrawn before the fluid ceased to flow freely. In one case the primary lumbar puncture had no perceptible effect, the somnolence increased, and the second lumbar puncture (15 c.c.) had only a very temporary effect, a dry tap followed; after a few days a fourth puncture, in which 10 c.c. of turbid fluid were withdrawn, was followed by a gradual improvement in symptoms, after which the patient was not disturbed. A second patient was very delirious before the first puncture; after puncture and withdrawal of 50 c.c. of turbid fluid, under great tension, the patient was quieter, slept well, and became more rational; she continued to do moderately well until eleven days after, when she became more noisy, had severe headache and repeated chills. She was cyanosed; she was again punctured,

and 10 c.c. of turbid fluid was withdrawn. Her condition continued unsatisfactory; repeated chills supervened, and she was again punctured, and 30 c.c. of turbid fluid under great tension withdrawn. Improvement set in the next day, the headache diminished, and the child could move her head more freely; she still had intervals of noisy delirium, and some headache and pain in the back; she slept better at night. Nine days after this, pain in the head reappearing, with occasional noisy intervals and temperature persisting, a puncture was made and 16 c.c. of turbid fluid withdrawn. The patient immediately became brighter, and continued to improve. On sudden rise of temperature fifteen days after, with accessions of headache, a tap was again attempted, but nothing obtained.

Another case was that of a boy, four and a half years of age, in which at first there was a question as to the possibility of traumatic meningitis. After the first primary puncture of 25 c.c. of turbid fluid withdrawn under great pressure, the meningococcus being found, the case was diagnosed as cerebro-spinal meningitis of the epidemic type. After this the boy, who had been stupid and irritable, became more rational, quieter, and said he felt better. His movements, which had been involuntary, were passed voluntarily. Thirty days after admission—the temperature, headache, and rigidity being present, and there being complaint of chilly sensations—5 c.c. of a turbid fluid were withdrawn. The temperature continued lower, symptoms improved gradually until complete recovery. This patient at no time after the first puncture presented anything but the milder type of disease. He would sit up at times, and for days be quite rational. He complained principally of headache and pain in the neck. In another patient the principal symptoms were violent headache and pain in the back of the head and neck. There was delirium at intervals. Lumbar puncture relieved the headache and pain palpably. The infant, eight months of age, was not relieved by lumbar puncture. She was admitted in a comatose condition, and the punctures and withdrawal of fluid did not relieve her nor clear up any of the symptoms.

As regards the effects of lumbar puncture on the pulse and respiration, it can only be said that the pulse is in some cases temporarily diminished in frequency, in others not at all, and that the respiration continues much the same. This is important, because in those cases of cerebro-spinal meningitis in which just before the fatal issue respiration ceases, whereas the heart continues its action, lumbar puncture will not aid us in restoring the respiratory function. If we look over the results obtained by repeated lumbar puncture, we can justly say that



they have relieved symptoms. The relief seems to be more in the direction of a diminution of pain and a reduction of those symptoms which may fairly be traced to toxæmia and mechanical pressure. At the same time, we cannot but feel that the withdrawal of an appreciable amount of any fluid from the spinal canal which contains bacteria and the toxic products of inflammation must be beneficial in the long run on the course of the disease. It is premature as yet to say to what extent the prognosis is favourably influenced by this procedure. It is, however, a method which it is certain will come more and more into general vogue, and take its place with aspiration of the pleural cavity as a curative method.—*Medical News*, March 23, 1901.

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### 30.—SIX CASES OF CEREBRO-SPINAL MENINGITIS.

By E. H. EDWARDS STACK, M.B., F.R.C.S.,  
House Physician, Royal Infirmary, Bristol.

These cases were all patients in the Royal Infirmary. The first five were admitted within a few weeks of each other last summer; but as they came, with two exceptions, from widely different districts, they can scarcely be said to constitute an epidemic. Cases 1 and 2 were father and daughter, living in the same house. The latter was the first case. The disease ran a short and mild course, and was not suspected, but there seems to be very little doubt that they were both due to the same micro-organism. The sixth case occurred in January of this year, and is included, as it is the most typical of the series.

[The details of the cases which occurred in patients aged 17, 16, 45, 9, 7, and 21 years respectively, are omitted here. Three of the cases recovered and three died.]

On looking over old and recent accounts of this disease, there seems to be no doubt that it must be commoner than is supposed, and that a number of cases have occurred which have not been diagnosed. Sometimes it appears as a mild attack which has passed as febricula, a bilious attack, herpetic fever, &c., and on the other hand it is probable that many cases which were called simple or posterior basic meningitis had the same etiology. The disease used to be considered due to the diplococcus pneumoniae, and it seems certain that this microbe is occasionally the exciting cause. Others have described cases of streptococcal origin. One, therefore, has to consider that practically the same clinical disease is due to several different micro-organisms. In such a complicated and often so definite a condition this is curious; and should the question of treatment by a specific

antitoxin arise it would certainly be important that a differential diagnosis should be established, and therefore lumbar puncture will not only be interesting but useful.

The most constant conditions found on examination seem to be: an irregular temperature not assignable to other causes, pain in the back of the head and neck, generally hyperæsthesia, herpes labialis, Kernig's sign, and the discovery by lumbar puncture of the specific microbe. Very little mention is made in recent epidemics of the presence of the diplococcus in the blood, though one series is reported in which it was constantly found and easily grown. A syringe of blood was taken in three of these cases, but all proved sterile. Roughly speaking, about half the known cases recover, and no doubt the mortality of all cases is considerably below this.

A considerable number of lumbar punctures have been made in the Royal Infirmary in different diseases, and it is worth recording that the proceeding has always been very easy and almost painless, in fact less objected to than the similar proceeding so often performed for exploring a chest. The same needle is used, and the depth of puncture is about two inches in an adult. The spot chosen is the first inter-spinous interval above a line joining the highest part of the crests of the ilia; a syringe of fluid is easily obtained. No after-effects for good or ill have been noted. A coverslip preparation should be made at once and stained with methylene blue, and if positive another by Gram should show complete decolorisation, if Weichselbaum's, *i.e.*, the microbe under discussion, is present. An agar slope tube should have about a drachm squirted on its surface, and incubated at 37 deg. C. The growth appears in one to four days.

It seems curious that this disease, which is clinically, in its severe forms at least, so definite, and therefore so readily recognised, should spring up so suddenly that during the summer months of last year several groups of cases appeared and were reported from various parts of the United Kingdom.—*Bristol Medico-Chirurgical Journal*, March, 1901.

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### 31.—MENINGITIS COMPLICATING PNEUMONIA.

By J. R. SPIER, M.D.

[From Dr. Spier's paper. The details of the case, which occurred in a child aged five years, are omitted here. The child recovered.]

The first question to arise in discussion of this case is whether a true meningitis existed, or whether simple congestion, an effect of the high fever, was the cause of the nervous



phenomena, as is the case in many acute diseases of childhood. I consider the case to be one of meningitis for the following reasons:—The convulsions set in on the second day of the disease and not, as is usual, ushering in the attack, and they were accompanied by a further rise in the temperature. They were followed by other symptoms, namely, profound unconsciousness, retraction of the head, and, what seems to be of the most importance, strabismus and sudden collapse, as shown in the history of the case evidencing interference with the cranial nerves. This also shows that the meningitis was basal. Considering then meningitis to be present, I may here point out the extreme rarity of this complication by referring to the few authors I have had the opportunity to consult. Fagge makes hardly any reference at all to nervous complications in this disease. Nearly all American authors discuss at some length these nervous symptoms. Holt mentions that meningitis was present in two of his cases, the convulsions, as in this case, coming on in the course of the disease. Nervous symptoms may be so severe as to simulate meningitis or cerebro-spinal fever; but there are no local paralyses, as in this case, unless meningitis be present. Osler favours the idea of the infection of the meninges by the pneumococcus. In eight out of one hundred fatal cases meningitis was found to be present, but it was cortical in situation, and on this account seldom recognised until the post-mortem. He regards meningitis as a very fatal complication. Various authors, under the headings of cerebral pneumonia, bring into prominence the severe nervous symptoms which may accompany pneumonia, but without regarding them as being complicated by meningitis. Menot, in Keating's *Diseases of Children*, regards meningitis as a very rare complication indeed. As regards the diagnosis, I may say that cerebro-spinal fever complicated by pneumonia, and tuberculous meningitis, were thought of during the attack. The latter seemed very probable, but was disposed of by the fact of recovery. As regards the former, it is true that all the symptoms were present of an attack of cerebro-spinal fever of a short and moderately severe type, but the pneumonia had been present for a day without any nervous symptoms, and the onset of the meningitis was accompanied by a further rise in temperature, showing decidedly that the pneumonia had the right of priority. Also, as far as I can learn, cerebro-spinal fever is very rare, if present at all in this city for many years. Osler mentions that it is impossible in sporadic cases of cerebro-spinal fever, where the diagnosis is open to doubt and complicated by pneumonia, to say whether the pneumonia is a complication of the fever, or whether the case be one of pneumonia with meningitis. He mentions, however, that

most cases of meningitis in pneumonia are cortical. Holt describes a secondary meningitis in connection with pneumonia, and also says that most cases are cortical and fatal. Most authors unite in stating the pneumococcus to be the most common exciting cause in meningitis.

Other points of interest in this case are :—(1) The relative proportion between the pulse and the respiration, which in health is one to four, and in which in pneumonia is generally altered to one to two or three. It remained in this case much the same as in health, especially after the onset of the meningitis. The cause of this is not apparent, considering the large area of lung involved. (2) The favourable effect of the use of opium and strophanthus in quieting the patient and strengthening the heart's action in a short time may be noted. (3) The long-continued low fever accompanying the absorption of the inflammatory products, and also the remarkable slowness of this process. The almost complete absence of expectoration may in some measure explain this tardy convalescence, as practically all the products of the inflammation had to be got rid of by absorption.—*Montreal Medical Journal*, January, 1901.

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### 32.—TREATMENT OF PARALYSIS AGITANS.

By R. T. WILLIAMSON, M.D. Lond., F.R.C.P.,  
Physician to the Ancoats Hospital, Manchester.

[Dr. Williamson makes the following remarks on the general treatment :]

Conditions which increase the tremor should be carefully avoided. Mental excitement, the visits of many friends, mental worry and anxiety, all markedly increase the tremor. Therefore the patient should lead a quiet life, and should be spared from mental excitement and anxiety as much as possible. Often the tremor diminishes markedly when the patient is reading an interesting book, or (in the case of a female patient) is engaged with sewing or needlework. Curiously, female patients are able to do needlework even when the symptoms are marked, the tremor diminishing during the handling of the needle ; but of course at a very advanced stage, needlework becomes more and more difficult. Sometimes writing a letter gives relief for a time by checking the tremor. I have heard of a patient who obtained relief, when the tremor was very severe, by tearing paper into small pieces. By a mental effort the patient is often able to check the tremor for a minute or two, or he can cause it to cease by firmly grasping some adjacent object, such as the



arm of a chair. After this temporary arrest the tremor often diminishes slightly for a time. Some patients can check the tremor for a short time by placing the hands on the sides just above the iliac crests, the fingers being directed forwards and the thumbs backwards. Also in some cases the tremor can be arrested for a short time if a friend seizes the arms and holds them vertically above the head. Gentle rubbing of the hand, from the fingers to the forearm, sometimes diminishes the tremor a little, and I have known a warm or lukewarm bath to cause a diminution of tremor for some time afterwards. All these means of temporary relief are useful when the tremor is particularly distressing. Wine, alcoholic drinks, strong tea and coffee all increase the tremor. Hence the patient should abstain from alcoholic beverages, or take only very small quantities, and the tea and coffee should be very weak.

The patient's room should be well ventilated and not too warm; a warm stuffy room increases the tremor and restlessness. In the open air the patient usually feels much better, and the tremor and general restlessness are greatly diminished. This is a point which does not appear to have attracted much attention, but from my own observations, and from the statements of patients, I believe that one of the best means of relieving the distressing subjective sensations (restlessness, desire to change position, and sensation of heat) is life in the open air. It is of the greatest importance, therefore, that the patient should sit in the open air as much as possible whenever the weather permits. If the patient's house has a garden attached, he should be recommended to sit out in the garden whenever the weather is suitable. When the patient is very warm, when he is overburdened with warm clothing, or when the weather is very warm and close, the tremor and subjective symptoms are worse; whilst these symptoms are diminished when the patient is cool, the clothing light, or the weather cool and bracing. Other conditions being the same, the patient feels more comfortable in a cold climate than in a hot climate.

During a railway journey, or during a drive in a carriage or shaky omnibus, the tremor diminishes, or is entirely checked. I have known a drive in an open carriage daily to give great relief. At the earlier periods I have known the tremor to cease entirely whilst the carriage was in motion, but to commence again directly the carriage stopped. At a later period in this case the carriage drive did not cause the tremor to cease, but it still produced a decided diminution, and had a good effect on the subjective symptoms. When the patient is wheeled in a bath-chair the tremor also diminishes a little so long as the chair is moving. Complete rest in bed produces no good effect; often it increases the subjective symptoms. At an

advanced stage of the disease the patient has great difficulty in walking alone. He is in danger of falling, and if he should fall he is unable to get up again. Often fatal accidents have occurred in this way, and a serious bodily injury has been produced which has caused death; or the patient has fallen in front of some vehicle and been run over, or into a pool of water and been suffocated. Hence it is very important that the patient should not be allowed to go about alone when walking has become difficult.

Electricity, especially the Faradic bi-polar bath, is of service according to Professor Erb, who mentions a case in which the tremor often almost disappeared after such a bath. I have tried this method, though only for a very short time, without benefit. Most writers who have given a trial to various forms of electricity have found it to be useless. I have tried systematic massage for long periods without any effect. But gentle rubbing upwards—scarcely more than cutaneous rubbing—as recommended by Sir Wm. Gowers, I have found to give a little temporary relief. Gentle passive movements of the limbs are sometimes of slight service.—*From Dr. Williamson's article on "Paralysis Agitans," in the Medical Chronicle, February, 1901.*

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### 33.—ACUTE SPINAL ATAXIA (NON-TABETIC).

By CHARLES L. DANA, M.D., New York.

[From Dr. Dana's paper. The cases and other portions of the paper are omitted here.]

Acute ataxia is a condition in which the patient, in the course of from a few days to one or two weeks, becomes affected with a marked ataxia of the lower, and sometimes of the upper, extremities. There are with it some other temporary or minor sensory disturbances and some motor weakness, but the ataxia is the dominant and most persistent symptom. Acute ataxia may be classed under the following heads: Acute bulbar and cerebellar ataxia, acute spinal ataxia, and acute peripheral ataxia due to a multiple neuritis of the sensory types. Sometimes ataxia comes on very rapidly in *tabes dorsalis*.

*Etiology of acute spinal ataxia.*—I cannot attempt to draw any broad conclusions from the small clinical experience which I have had, and I have been unable to find any cases exactly like it in literature. Adamkiewicz has reported cases of spinal-cord disease due to lesions of the vessels somewhat suggestive of my own, but the lesions were by no means confined to the posterior columns. The same is true of cases reported by



Williamson in his monograph, "Disease of the Nervous System Dependent upon Vascular Supply." The provisional conclusion which I should draw etiologically is that the cases are due to senile arterial changes or to syphilitic lesion of the posterior blood-vessels of the spinal cord, causing either a blocking up, or hemorrhage, or both, with the usual reactive process. It seems to be a characteristic of the luetic virus in its exudative stage to affect especially the lateral and anterior portions of the cord, producing the well-known type of syphilitic spinal paralysis. It is the tendency of the disease in its degenerative stage to affect the peripheral sensory neurones, but it seems that in old age the exudative and vascular conditions caused by syphilis may also attack the posterior areas of the cord alone.

*Symptoms.*—In all my cases the ataxia was especially marked. The patients did not know the position of their limbs, and could not stand or walk except in the characteristic ataxic manner. On the other hand, cutaneous sensations were not markedly involved in any cases. There was always some tactile anæsthesia, but no marked loss of pain or thermic sense. The knee-jerks were abolished in two cases, but not in the third, in which case they were slightly exaggerated. There was some loss of motor strength, but the patient could always move the limbs freely in every direction, and could stand with help. There was loss of cutaneous reflexes. The Babinski phenomenon was not tested for. There was no special wasting of the limbs or change in electrical reaction. There was weakness of the bladder, with some constipation, but these functions were not entirely in abeyance. The patient suffered no pain, either at the time of onset or later. There were no lightning pains, no crampings or jerking, no girdle pains, though there were some girdle sensations. The vascular and glandular functions of the limbs were not especially disturbed. There was in no cases any lesion of the cranial nerves, nor were the arms affected, except in one case, in which there was some paræsthesia of the fingers for a time.

*Course and prognosis.*—In all my cases the patients rather rapidly improved. One of them is practically well, eight years since his attack. Another is nearly well, six months since his attack. Another got very much better, but succumbed two years later to what was apparently cerebral thrombosis. Gowers's patient recovered. The prognosis may be said to be better than that of the ordinary type of syphilitic spinal paralysis, or transverse myelitis.

*Diagnosis.*—The disease is so characteristic that it can hardly be mistaken for any other malady. In young patients such a sudden onset might be produced by multiple sclerosis or multiple neuritis. I cannot deny the possibility of such an

affection occurring in youth, but, if so, I should see no reason why it should not run the same course as in the older-age cases. Locomotor ataxia never comes on with any such acute onset as in the cases which I am describing. In acute bulbar ataxia there are always some symptoms involving the cranial nerves, and the arms as well as the legs are affected.

*Pathology.*—It is perhaps unfortunate that I cannot complete my records by the presentation of a pathological demonstration, but the age of the patients, the acute onset, the history of syphilis, the characteristic symptoms, all make it practically certain that it is a vascular disorder involving either hemorrhage or softening. The absence of pain or fever and the rapid recovery show that the process is not an inflammatory or a progressive and degenerative one. The case reported by Williamson (*Lancet*, 1894) shows very conclusively what we should *a priori* expect to be true, namely, that there may be thrombotic softening of certain parts of the spinal cord by thickening of the blood-vessels through syphilitic endarteritis or other cause.

*Summary.*—Acute ataxia occurs occasionally in tabes dorsalis, but is associated usually with characteristic symptoms. Acute non-tabetic spinal ataxia occurs as a manifestation of spinal syphilis or senile arterial changes, and shows itself by a sudden onset of temporary motor weakness and bladder troubles, great ataxia, and minor sensory disorders. It may affect only one extremity, but usually affects the lower limbs. The tendency is to nearly complete recovery. Acute bulbar or bulbo-cerebellar ataxia occurs as a sequel of some acute infection, and is usually the beginning of a form of multiple sclerosis. Acute neuritic ataxia occurs as the result of multiple neuritis of the sensory type. It is seen usually in the non-alcoholic forms of neuritis, especially those due to metallic poisons, like arsenic, or to diphtheria.—*New York Medical Journal*, April 20, 1901.

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### 34.—TWO CASES OF PARALYSIS IN ENTERIC FEVER.

By JAMES CARSLAW, M.A., M.B.,  
Dispensary Physician to the Western Infirmary.

Paralysis of any severity is a rare complication of enteric fever, and two cases I have recently come across I thought of sufficient interest to bring under consideration. The one I regard as a true complication of enteric fever, due to the effect of the toxins of the bacillus typhosus on the nervous



tissues. The paralysis in the second case is more than likely to have been rather a coincidence—an attack of hemiplegia in the course of enteric fever, which might have occurred in connection with any feverish illness, or even without any other symptoms.

Apart from the nervous symptoms, such as headache, sleeplessness, and delirium, that occur in enteric fever, as in some of the other specific infectious fevers, there are many definite affections of the nervous system that may develop either during the fever or in the course of convalescence. In this respect enteric resembles epidemic influenza more than any other of the specific fevers. There may be mental symptoms, leading on to some form of insanity, or neurasthenic conditions may supervene. But there may also be definite system disease of the brain or of the spinal cord, or some inflammatory affection of the peripheral nerves. Cases of hemiplegia have been recorded by Murchison and others, and, though they may sometimes be due to embolism, it is said that hemiplegia may occur from arterial thrombosis, just as such thrombosis may occur in a limb and lead to gangrene. Disseminated sclerosis, disseminated myelitis, and the anterior poliomyelitis have all been found as sequelæ, but the paralysis of enteric fever is probably most frequently due to a neuritis. This may be a slight affection, and in this form is probably not very infrequent, perhaps limited to the feet, and giving rise to the so-called “tender toes of typhoid”; or it may be very extensive—affecting all the limbs, and associated with marked atrophy in addition to motor and sensory disturbances.

My first patient is an example of well-marked peripheral neuritis of both upper limbs, this neuritis having some features which are unusual, notably the marked asymmetry in its distribution. He is a young man of 20, who has just been invalided home from South Africa, where he was on active service. He was admitted to No. 3 General Hospital at Kroonstad with enteric fever on June 9, having had diarrhœa for about a week. He was very ill with delirium for the subsequent three weeks, and does not remember anything that happened. About a week later he developed severe pain in the right arm, especially at the shoulder, also numbness in the fingers, and within about two days there was practically complete paralysis of the right arm. Two weeks later the left arm, which he had been using instead of the right, became similarly paralysed, though not so suddenly and with less pain. As he recovered from the enteric fever his arms remained powerless and were very much wasted, and after treatment in several of the military hospitals he was invalided home. He came under my observation four weeks ago at the Western

Infirmary Dispensary, and has been treated as an out-patient of the electrical department since then.

The patient is a healthy-looking and well-nourished young man, his muscles being of good tone except in the shoulders and arms. His previous health was always good, and he has not suffered from rheumatism or venereal disease. He had been always temperate in the use of alcohol in this country, and in South Africa could get none. He says that at the front, owing to the heat and dust, water was frequently drunk of a doubtful character, without either filtration or boiling, and this accounts for his contracting enteric. Nothing is discovered abnormal in the face, eyes, or tongue; and his back and legs are strong, though the knee-jerks are somewhat exaggerated, which is said to be a common feature in cases convalescing from enteric. In the arms there is profound paralysis, so that the patient is able to do little for himself. Practically all the muscles of the shoulders and arms are affected to some extent, but not symmetrically, and this is shown by the contrast in the wasting of the muscles on the two sides. Thus, the right deltoid is more wasted and weaker than the left; and while the right biceps is fairly good the left is so much wasted as to be hardly appreciable. The forearm muscles are also very weak, especially the extensors, and he has "wrist-drop" on both sides. There is pain on handling the affected muscles, but more especially on pressure on the nerve trunks. There is an area on the right hand and forearm, including the right thumb and first two fingers, the outer half of the palm of the hand, the outer half of the back of the hand and for a distance of about two-thirds up the back of the forearm on its radial aspect, where there is marked anæsthesia of tactile impressions. In the same area there is analgesia, loss of thermal sensibility, and absence of muscle sense; while this region is quite dry and cold, the other hand and the remainder of the right hand being flushed and perspiring. Tactile sensibility is good elsewhere, and there is, particularly in the left hand and arm, some hyperalgesia, to such an extent, indeed, as to render it somewhat difficult to make a detailed electrical examination. There is some tremor of the limbs, and the muscles are unusually sensitive to direct stimulation. A biceps-jerk is easily elicited on the right side, but otherwise the reflexes of the arms are absent. There is some swelling of the hands, which may be partly mechanical in connection with the wrist-drop, though it may perhaps be related to the vasomotor disturbance which is evidenced by the flushing and perspiring. In regard to the electrical reactions, it may be said generally that the reaction of degeneration is present in all the muscles of both shoulders and arms, though the increased sensitiveness of the patient makes it difficult to state the results in figures. In some of the muscles the reaction is only partial; in others, and those naturally the muscles that are most wasted, the reaction is more complete. For example, with faradic electricity the right biceps give a ready response, while with galvanic electricity the series is A.C.C. 4 milliamperes and K.C.C. 10 milliamperes—this being a partial R.D. The left biceps, however, gives no response to faradic, and with galvanic electricity A.C.C. is got much more readily than K.C.C., though the patient is much too sensitive to allow the strength of the current to be recorded. Thus, in



the atrophied left biceps the R.D. is complete. Similar details might be recorded in regard to all the other muscles, with somewhat similar results. The method of electrical treatment that has been adopted is the application of the faradic current to the muscles that respond to it, but the galvanic current to those that respond only to it. It would, no doubt, have been of greater benefit to the patient to have admitted him to the Infirmary, and to have had massage practised as well as electricity, but he had been so long in the different military hospitals that he was very anxious to be treated as an out-door case, and already considerable improvement has taken place.

The second case is one of hemiplegia which occurred suddenly in the fourth week of enteric fever, and from which the patient has only partially recovered.

A girl, aged 22 years, was admitted to the Knightswood Fever Hospital with enteric on May 29, 1897. In the fourth week of her residence there, when the worst of the illness was over, she was suddenly seized with right hemiplegia and aphasia. She was dismissed from Knightswood on July 24, her recovery from the enteric being complete and her paralysis improving. She came under my observation in Sir William T. Gairdner's wards in the Western Infirmary in December of the same year, where she remained for six weeks. By this time considerable improvement had been gained, so that the aphasia had almost completely passed off; there was only slight evidence of facial paralysis; the lower limb was nearly recovered, though the gait remained hemiplegic, and the upper limb was still most affected, being rigid, somewhat contracted, and with all but complete paralysis of the extensors. The deep reflexes were markedly exaggerated on the right side, wrist-clonus being sometimes elicited as well as ankle-clonus. Treatment by massage and galvanism had little effect. The patient's previous health has been good, except for the occurrence of measles and scarlet fever in childhood, and suppurative disease of both her ears, which resulted in considerable deafness, many years ago. She has not had chorea or rheumatism, unless one may so regard growing pains, which she had when at school, but not of such severity as to confine her to bed.

While the patient was in the Infirmary her case was studied especially in relation to the etiology of her hemiplegia. There was nothing to favour the idea of syphilis, and no evidence of renal disease, though on admission there was slight albuminuria, which did not persist. As to the cardiac condition, the reports in the ward journal indicate nothing definitely abnormal, the cardiac dulness not being increased and there being no murmurs, though the second sound was noted as very distinct at both the pulmonic and the aortic areas. However, on going over the case with his class Sir William Gairdner, though indicating that the evidence in regard to the pathological nature of the lesion was scanty and its interpretation ambiguous, directed attention to this, among other facts, that

“there is a very distinct first sound in the apex area, which, however, it would be improper to call morbidly accentuated, and it is just possible to fancy, but without any clear evidence, that there may be a trace of A.S. murmur. There is, however, no distinct accentuation of the second sound over the pulmonic area.”

This last note is of great interest, for when I visited this patient a fortnight ago, in her own home, I found that what had been suspected by Sir William was now an undoubted fact, and probably this gives the clue to her illness. She has now slight palpitation and dyspnœa on exertion, and at the apex of the heart there is a slight thrill, and on auscultation a short but distinct A.S. murmur is made out. The patient, therefore, has some mitral stenosis, possibly of rheumatic origin, which was no doubt present in a less marked form at the time of her enteric fever, and her hemiplegia was most probably embolic. The hemiplegia would thus seem to be rather a coincidence in the course of an attack of enteric fever than a true complication of that disease.—*Glasgow Medical Journal*, March, 1901.

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## DISEASES OF THE ORGANS OF CIRCULATION.

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### 35.—DIGITALIS AND DIGITOXIN.

By LEON L. SOLOMON, A.B., M.D.,

Louisville ; Professor of Materia Medica and Therapeutics  
and of Clinical Medicine in Kentucky University, Medical  
Department.

[From Dr. Solomon's paper :]

*Indications and Contraindications.*—We are taught that digitalis is indicated wherever there is failure in the dynamic power of the heart muscle, especially if, at the same time, arterial tension is low ; but it is surprising—and this point must be emphasized—what benefit follows the administration of the drug in cases where, on theoretical grounds, consensus of opinion would advise us “*best* to avoid it.” This not infrequently happens in aortic regurgitation. Again, great vascular excitement, high arterial tension—the latter as found in chronic nephritis—and existing hypertrophy of the heart, provided it is complete, contraindicate digitalis ; the nitrites, under such circumstances, make an admirable addition to the



drug, especially nitro-glycerine, which obviating arterial constriction, often permits of the use of digitalis when it would otherwise be impossible to exhibit it. A course of iodine—potassium or other iodide—preceding the digitalis or accompanying its administration, has been found highly satisfactory in some cases, especially, where the drug is contraindicated in arterio-sclerosis ; in the latter condition, high vascular tension sooner or later disappears, and then digitalis will serve its usual good purpose. In the issue of *Therapie der Gegenwart* for March, 1900, is reported the account of an autopsy on a middle-aged man ; the report is of present value : Cor bovinum, moderate stenosis of ostium aorticum, aortic aneurysm, arterio-sclerosis of kidneys—and notwithstanding the existence of these conditions (any one or all of which would ordinarily contraindicate digitalis) the patient had been kept “comfortable, in fact, in good health,” for a period of eight years by the daily administration of from one and a half to two and a half grains of the powdered drug. During these eight years, it is calculated that the patient took something less than ten ounces of digitalis. His death was sudden, following an unusual physical exertion.

Digitoxin (Merck) is a white, crystalline powder, insoluble in water, but soluble in alcohol and chloroform, and slightly so in ether. Dose : Digitalin, from one twenty-fifth to one-fourth of a grain ; digitoxin, from one one-thousandth to one two-hundred-and-fiftieth of a grain, up to one fortieth of a grain daily (regarded as the maximum quantity of the latter.) Digitoxin is the chief ingredient in the leaf of the foxglove, and the latter should, in the author’s opinion be standardised in terms of its contained digitoxin. As a diuretic, digitoxin is superior to digitalin, since it actually dilates the renal vessels, while stimulating the heart. Furthermore, its action is prompter and more certain than that of digitalin. It manifests its effects oftentimes within twelve hours, and is less liable to cumulative action than digitalin. Because of the uniformity of its action and of its energy and strength, no doubt, digitoxin has the brightest future of all its sister glucosides. In my own hands, digitoxin has been given in a series of cases—of late, chiefly hypodermatically, but also by the mouth (always after meals). It was the exception to see any digestive disturbance when one five-hundredth of a grain or less of digitoxin was being given, three times daily ; digitalin, however, not infrequently had caused, in my hands, some such unpleasant accessory effect. [NOTE.—The action of the smaller doses of digitoxin has been so satisfactory that I have not had occasion, in the majority of instances, to employ more than one five-hundredth of a grain, and never over one two-hundred-and-fiftieth of a grain.] In no case did an abscess ever result

from the hypodermic syringe. A very hard infiltration œdema usually followed the injection, until, after many pricks of the needle, the tissues about the point of the puncture became stiff and rigid, interfering somewhat with the function of the part (as about the arm or leg). Pain was almost invariably complained of when the medicine was given by this route, but it never continued long. If the arm was being used, it would become tender, and, from the great amount of infiltration for the time being, function would be modified. However, these symptoms and signs disappeared promptly with the withdrawal of its administration by this route. I am aware my experience in several ways does not coincide with that of Messrs. Wood and Arnold, who find the drug too irritating for administration by the mouth, and report it as liable to cause abscess when injected hypodermatically. By the mouth, the cardiac action was not so pronounced as when the drug was thrown under the skin. Under any circumstance, however, it mattered not by what route digitoxin was introduced, there was invariably a beneficial effect. It was sometimes observed that the bowels were relaxed while digitoxin was being taken, this chiefly occurring when the dose was exhibited by the mouth; however, laxative action was by no means the rule. Where high tension existed, the combination of digitoxin with nitro-glycerine acted admirably.

*Uses.*—Digitoxin has been especially recommended in chronic myocarditis and in cases of ruptured compensation. —*New York Medical Journal*, February 9, 1901.

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### 36.—PERICARDITIS WITH EFFUSION.

By GEORGE G. SEARS, M.D.,  
Boston.

[From Dr. Sear's paper :]

While a number of conditions may simulate a collection of fluid in the pericardium, practically the chief difficulty in diagnosis lies in its differentiation from marked cardiac enlargement. Where no opportunity has been given for watching the progress of the case, the extreme difficulty, or perhaps impossibility, of diagnosis is acknowledged by all writers, owing to the ambiguous character of most of the physical signs. The extension of the dulness beyond the apex beat points to the presence of pericardial effusion, although it is far from conclusive unless very marked, since it is found in cases of uncomplicated cardiac enlargement, while the lack of correspondence between the comparative strength of the radial pulse and the decided weakness of the impulse and



sounds of a heart whose percussion outlines apparently show a great increase in size is also suggestive of the same condition. In spite, however, of the striking character of this increased area of dulness, its shape is still variously described. It has seemed to me, as Ewart and others have stated, that in connection with the increased area of cardiac dulness the most important single sign of pericardial effusion in distinction from cardiac enlargement is the angle made by the line bounding the right side of the præcordial dulness with that which marks the upper limit of hepatic flatness. In my experience, no matter how large the heart, its percussion border is always a curved line whose lower end tends to approach the sternum so that the angle made by the outlines of the enlarged heart and the liver on the chest wall is an acute one, or at least never exceeds 90 deg. In fact, when the cardiohepatic angle is equal to a right one the chances are in favour of pericardial effusion.

Secondary signs resulting from pressure or displacement can only be considered as corroborative evidences. The pulsus paradoxus, which occurs in pericardial effusions as in several other conditions, was found with considerable frequency, but not always when the quantity of fluid was large, as has been stated; in a few cases it has been well marked where the amount of exudate seemed comparatively small. An accentuation of the pulmonic second sound has been described by Warthin as the earliest sign of pericarditis, and in my cases it has occurred sufficiently often to arouse one's suspicions that such a complication is developing when it is otherwise unexplained and persistent in diseases liable to cardiac accidents. Its presence has allowed me on one or two occasions to make what was a lucky, but correct, guess as to the course of future events.

In the early stages a sedative to quiet the heart and in the later a stimulant were the only medicinal measures used. No attempt to control the effusion was made, but an ice bag or a poultice was applied, if they comforted the patient or reduced the pulse rate. Blisters were never used, as their value seems doubtful and they interfere with the examination of the chest, but tincture of iodine was applied if the patient demanded treatment. The chief interest from the therapeutic standpoint lay in the decision as to when and where to aspirate. The history of my own attempts is largely a record of failure, but no harm has ever resulted, and the marked relief to the patient which sometimes follows the withdrawal of a few ounces of fluid fully justifies the procedure. While in pleurisy one expects to get fluid on the introduction of the needle, experience shows that a dry tap is by no means infrequent in pericardial effusion. It was so in Dr. Shattuck's published cases, and it has been

even more so in mine. In some instances, even where there was no question that a very considerable amount existed, and where the needle moved freely in all directions after its introduction and could be pushed up against the heart itself, no fluid, or at most a drachm or two, could be drawn through the needle by the aspirator. This has been explained as resulting from the presence of flocculi in the exudate or from its trabeculated or loculated nature. The site selected for puncture undoubtedly has an important bearing on the success of aspiration, but it is questionable if one position *per se* can be selected as better than another, so much depends on the position of the heart in its relation to the pericardial walls, which is not always constant. The close proximity of a friction rub even in the presence of a considerable amount of fluid has several times prevented me from using the fifth left space, the most frequently recommended, from fear of wounding the heart, and with one exception I have found it inexpedient to adopt the route suggested by Dr. Shattuck, to the left of the apex beat, since the outer limit of the pericardium has been impossible to determine, owing either to the presence of pleural fluid or to the dulness caused by compression or retraction of the left lung. Rotch, some years ago, after some experiments on the cadaver, pointed out the advantages of the fifth right space, and recently Damsch has recommended either the fifth or sixth right space near the sternum, since he found in a series of similar experiments that the fluid collected in the lower right-hand portions of the pericardium. Although the fourth and fifth right spaces have been the ones more often selected in my cases, as the danger of wounding the heart seems smallest there, the proportion of productive taps has not been particularly encouraging.—*Boston Medical and Surgical Journal*, December 13, 1900.

### 37.—THE EFFECTS OF RHEUMATIC FEVER ON THE HEART.

By G. A. GIBSON, M.D., D.Sc.,  
Physician to the Royal Infirmary, Edinburgh.

[From Dr. Gibson's paper :]

Ever since it was first indicated by Bouillaud, and emphasised by Trousseau, Graves, and Stokes, the fact has been generally acknowledged that in acute rheumatism cardiac may precede articular lesions. This consideration naturally leads to the conclusion that the relations of rheumatism as regards the heart and the joints are similar in nature if different in degree.



In other words, the cardiac effects of rheumatism are no more to be regarded as complications than the articular. The importance of this consideration cannot be overlooked, and it furnishes the cue to the modern methods of treatment.

It is highly probable that all cases of acute and sub-acute cardiac diseases are of microbic origin, and all may therefore be termed infective. We have, until recently, had to admit that cases arising in the course of acute rheumatism have not been definitely proved to have their origin in microbic infection, but the admirable work of Poynton and Payne goes a long way to prove such a connection. Microbes have been found in all forms of pericardial and endocardial inflammation, and a large number of different organisms have been described in this relation. It seems probable that the diplococcus described by the observers mentioned will soon be accorded a place amongst them.

Starting with the conception, then, that cardiac lesions are part of the rheumatic infection, and knowing what results may be expected if the poison should attack the heart, we are in a position to consider how to prevent, if it be possible, or to lessen, if that alone be within our power, its effects. Part of the lesions produced by rheumatism are defensive in their results. Newly formed material deposited upon the pericardial and endocardial surfaces is protective. But, during the further processes which take place in the deposits, there is apt to be some adhesion or contraction by which the usefulness of the parts is impeded. Such a consideration leads to the reflection that, if it be possible, nature's own processes must be controlled.

The first and most important method of treatment, with a view to obviate rheumatic implication of the heart, is to enjoin rest in the highest degree available. It is clearly impossible to ensure absolute rest, however, to the pericardium, the endocardium, or the myocardium, seeing that the heart works steadily day and night; nevertheless, by securing complete bodily rest, the amount of work which the heart is compelled to perform is reduced to a minimum. By the absence of all muscular exertion both the force and the frequency of the action of the heart may be greatly reduced. In this way the friction between the inflamed pericardial surfaces, the shock of the closure of the valvular cusps, and the strain upon the muscular fibres, may be enormously reduced. From the first moment, therefore, of an attack of acute rheumatism until some days after every symptom has finally disappeared, the patient should be compelled to retain a horizontal position. Closely related to the question of rest is that of diet. While sufficiently nutritive to supply the demands of the diminished tissue changes which occur during rest, it should be of such a nature as not to produce

very stimulating effects, or to introduce into the system too much animal proteid material. It must, moreover, contain abundance of fluid, so as to bathe the tissues thoroughly. During the earlier periods of acute rheumatism the best form of diet is accordingly composed mostly of milk. But, as time goes on, the nature of the diet may be judiciously extended by the introduction of soups, farinaceous foods, and the lighter forms of flesh.

With regard to the question of drugs, the specific remedies for acute rheumatism will naturally be in operation from the earliest moment. We are at present unable to answer the question whether salicin and its allies in themselves have any influence in lessening the tendency to cardiac implication. The results of statistics, unless spread over a lengthy period, and distributed over a wide field, are apt to be fallacious. There appears, however, to be good ground for the belief that the salicyl series of drugs considerably diminishes the cardiac effects of rheumatism. These drugs must be continued in full doses until every symptom has disappeared—until the pulse and temperature have become normal, and every appearance of joint affection has subsided. After that state of matters has been reached, it is well still to continue the specific remedies for some time. When all the general symptoms have disappeared for a few days, absorbents may be begun. Of these, the one which seems to me most satisfactory is iodide of sodium. It may be continued for some weeks, giving from 10 to 15 grains three times a day. If there should be any appearance of anæmia, the iodide of sodium may be combined with iodide of iron, or, at the same time, some iron preparation may be administered with vegetable tonics. During all this period no remedy that can stimulate the heart—such as digitalis or strophanthus—should be administered, the whole aim being to maintain the heart's action at a low level. After the disappearance, however, of every symptom, general or local, the employment of the cardiac tonics may be commenced. Throughout the whole course of the disease an occasional mercurial aperient should be administered every few days.

One other method of treatment remains for consideration, and one which, notwithstanding the recent expression of opinion by Mitchell Bruce, seems to me of the highest value. This is counter-irritation. For a good many years it has been my custom to employ counter-irritation about the præcordia in every case of acute rheumatism, and the results have been eminently satisfactory. The method has consisted in the application of small fly-blisters every night, or every second night, over the præcordia and their neighbourhood, and I am able most thoroughly to agree with Caton as regards their utility.—*Practitioner*, January, 1901.



38.—DISEASES AND DISORDERS OF THE HEART  
AND ARTERIES.

By J. MITCHELL BRUCE, M.A., LL.D. Aberd.,  
M.D., F.R.C.P. Lond.,

Physician to Charing Cross Hospital, &c.

[Dr. Bruce thus speaks of the preventive treatment in his Lettsomian Lectures :]

The first thing to strike us about these unfavourable influences is the number of them that could be avoided or controlled successfully by simple exercise of the will. The toxic effects of tobacco, alcohol, tea, &c., are due to abuse, from thoughtlessness or ignorance, or from indisposition rather than inability to exercise self-control. The abuse of tobacco appears to create so much discomfort or even alarm, of a kind which the sufferer cannot fail to refer to its cause, that the remedy is effected automatically and no great harm is done. We seldom have to do more than confirm the patient's suspicions in this direction, and recommend temporary abstinence from the cigarette or pipe and greater care in the future. With alcohol it is a different matter. Alcoholism grows by what it feeds on, and our best efforts are often vain. The present is hardly an occasion for dwelling on this subject—the duty of the profession to their patients and friends in respect of the abuse of alcohol. Still, I must urge you to exercise more fully than is at present exercised your personal influence to discourage habitual drinking. I believe (because I have found) that many men who are not open to arguments of an abstract kind can be made to pause and reconsider their manner of living by having a concrete presentment of their condition and its results placed before them—in plain English, by being thoroughly frightened. “Heart disease” is a powerful argument to employ with persons of this class, and it is one that is also justified by the issues at stake. Of syphilis and the havoc that it works on the heart, the aorta, and the vascular system generally, but particularly within the nervous system, I need not speak. The profession, as I have said, is not yet sufficiently alive to it; what can the public be expected to do in the way of prevention? Gout, corpulence, and allied metabolic disorders, those fruitful sources of cardio-vascular disorders and atheroma, call for temperance not only in drinking but in eating. Whilst the question continues to be discussed which particular articles of food ought to be avoided by gouty individuals, let us all join in offering them one bit of advice of the value of which there can be no doubt—whatever they eat, to eat little. Moderation in amount is,

speaking broadly, far more important than avoidance of the theoretical antecedents of uric acid, whether meat or milk or sugar. With the observance of this simple and wholesome dietetic rule must go attention to free elimination by all the excretory channels and the insurance of sufficient exercise and enjoyment of fresh air. If we wish to impress this consideration on our own minds and give effect to it in our practice, let us call to mind for a moment the number of cases that I have submitted to you of arethoma of the aorta in stout, matronly women of sedentary habits—in whom, indeed, this kind of degeneration is quite as common as in men.

I have already said so much on the subject of cardiac strain that it is unnecessary and would be uninteresting to return to the question of the prevention of it. We have seen how often it occurs in the middle-aged or old subject by ill-considered attempts at athleticism. Moderation and due respect for age are the true guides to the useful enjoyment of exercise after 40 years of age. As for the evil effects of nervous influences on the circulation, in addition to anxiety, care, misfortune, and grief, which are usually beyond our control, nervous strain, as distinguished from simple hard intellectual work, often must be relaxed if cardio-vascular damage is to be prevented. I refer to the cases of persons in positions of great responsibility, with heavy, complex, prolonged duties, which they fail to overtake without exhaustion consequent on high pressure and excitement. I would not have dwelt so long upon the measures calculated to prevent degeneration of the heart were it not that they have to be employed with equal strictness and perseverance in the treatment of cardio-vascular disease when it is already established and our assistance is sought with anxiety.—*The Lancet*, April 6, 1901.

### 39.—GONORRHŒAL ENDOCARDITIS.

By G. W. McCASKEY, A.M., M.D.,

Fort Wayne, Ind.,

Professor of Clinical Medicine and Nervous Diseases in the  
Fort Wayne College of Medicine.

[From Dr. McCaskey's paper:]

Mr. H——, aged 33 years, was first seen in consultation with his attending physician, November 21, 1899. In January, 1898, he had a severe attack of typhoid fever, with intestinal hemorrhages, which was very protracted, lasting over three months. Recovery was very slow, but was apparently complete, and he remained in good health until January, 1899, when his attending physician was called to see him on



account of a severe chill following self-catheterisation on account of a stricture from an old gonorrhœa. Some five or six weeks later (February, 1899) the present illness began with general malaise, afternoon elevation of temperature ranging from 100 deg. to 102 deg., with morning temperature 99 deg. or less. From this time there was progressive loss of strength with emaciation. One or two slight pulmonary hemorrhages occurred about the time of my study of the case. For several weeks preceding my first examination he had been suffering from joint pains in the fingers, toes, and knees. In the left second interspace there were both a diastolic and a systolic bruit, and also a distinct visible impulse synchronous with each systole of the heart. There was marked hypertrophy of the left ventricle, the dulness extending beyond the nipple line, and the impulse was also felt far to the left. The urine contained a trace of albumin and granular casts, pus, and a branched organism.

The diagnosis was endocarditis due either to typhoid or gonorrhœal infection, the lesion being limited to the aortic and mitral valves, and subacute nephritis of recent date and toxic origin. It will be noted that the greatest intensity of the aortic murmur was in the left interspace; but the diagnosis of aortic lesion was nevertheless made on account of the hypertrophy of the left ventricle and associated symptoms. One month after my first visit he had a distinct hemiplegic attack, the result of a cardiac embolism, the right side being completely paralysed. The patient gradually lost strength and flesh, and finally died January 4, 1900. Shortly before his death purpuric spots appeared over the upper part of the body, and there was marked hæmaturia. The autopsy was made by attending physicians twenty-four hours after death. At the necropsy the left ventricle of the heart was greatly hypertrophied, right flabby and thin. The valves on the right side of the heart were perfectly normal in appearance, and seemingly competent. The aortic valves were thickened, distorted, roughened, and covered with vegetations, and obviously incompetent. The mitral valve was also the seat of inflammatory changes, and did not completely close the orifice, although its incompetency was partly due to the predominance of dilatation, which greatly enlarged the orifice of the auriculo-ventricular septum. There were two perforations in the posterior cusp of the mitral valve which led into two sac-like formations, perhaps half a centimetre in diameter, on its auricular aspect. The spleen was about twice its normal size. Both kidneys were enlarged, the right presenting a pelvic hemorrhage. Scrapings from the aortic valve showed micro-organisms morphologically identical with the gonococcus, which proves the endocarditis to be of gonorrhœal origin.

There are several points of interest in this case. One of especial interest from a diagnostic viewpoint is the left-sided location of the greatest intensity of a basal murmur, proven by

autopsy to have been the result of an aortic lesion. The general statement of the authorities with reference to this question ought to be qualified materially, as there are doubtless many cases in which this anomalous location of the greatest intensity of aortic murmur exists, and unless the exceptional cases are kept well in mind may lead to errors in diagnosis. Reviewing the case in a general way, we find in the first place the evidence of a general infection or auto-intoxication, for the explanation of which we naturally turn to the typhoid or gonorrhœal disease. The germs of both these diseases may remain in the organism in a latent form for a considerable length of time. The protective forces of the organism may be just sufficient to prevent the increase of an organism to a degree of virulence, but not strong enough to bring about its destruction, thus constituting the conditions recently described by Adami under the title of latent infection and subinfection. Such conditions may exist for a long time without manifest symptoms, and may finally gain the mastery of the organism, the occurrence of which is heralded by general malaise and joint pains, as in this case, or by various functional and nutritional disturbances.—*Medical Record*, December 29, 1900.

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#### 40.—FATTY INFILTRATION OF THE HEART SECONDARY TO “SUBPERICARDIAL OVER-FATNESS.”

By J. M. ANDERS, M.D., LL.D.,

Professor of Medicine and Clinical Medicine,  
Medico-Chirurgical College.

[From Dr. Anders' paper :]

I shall deal only with cases of fatty infiltration that are the consequence of extreme obesity combined with subpericardial over-fatness. The etiology is obviously that of extreme general obesity, particularly the anæmic variety, however the latter may be produced. As a clinical entity, fatty infiltration is not sharply defined, and writers are not in perfect agreement as to the grouping of features on which to base even a reasonably assured diagnosis. Two conditions are among constant accompaniments, marked polysarcia and a feeble heart. It may be pointed out that in the majority of cases it is not until the symptoms of commencing dilatation, often as the result of sudden or unusual muscular exercise or a profound shock, develop that we are warranted in entertaining the belief that



fatty infiltration has supervened. The more characteristic clinical indications are urgent dyspnoea upon muscular exercise, præcordial discomfort, pain under the sternum, angina pectoris, cardiac palpitation, arrhythmia, syncope, vertigo, and cyanosis. Various forms and grades of intensity of cardiac arrhythmia are commonly present.

Slight irregularities in which the pulse-waves occasionally vary in size and tension, or an occasional intermittence followed by a brief pause, are not indicative of fatty infiltration ; at all events, they are not unfavourable symptoms. I have repeatedly observed slight intermittence and arrhythmia disappear as the result of treatment directed to the over-fatness. On the other hand, marked and constant disturbance of the cardiac rhythm is symptomatic of fatty infiltration and irremovable, although marked improvement may follow an appropriate course of treatment. Cardiac arrhythmia is not, however, peculiar to fatty infiltration. Moreover, there are latent instances in which the pulse is full and strong and not increased in frequency. In a strongly suspicious case under my care at present the pulse is large, regular, and of high tension. With the appearance of ensuing cardiac dilatation the pulse-tension falls and the frequency of the heart's action increases. Irregularity also supervenes. Thus the transition of the disease from the earlier to the later stages may be noted, and these changes that occur in the development of the disease may serve to explain the differences of opinion among clinical observers as to the rate and other peculiarities of the pulse. Henry Kennedy bases his diagnosis upon a large, full pulse, not increased in frequency, an enlarged area of heart dulness ; possibly a soft, systolic murmur over the base. Bronchial asthma or an asthmatic type of breathing after a full meal, or in the absence of any exciting cause, is frequently observed in fatty infiltration. A passive (hydrostatic) bronchitis, with cough and expectoration, is superadded in most cases. Angina pectoris is a recognised symptom. From personal experience, the apprehension of arterial disease, particularly sclerosis of the coronaries, is warranted in the majority of the cases that exhibit angina pectoris. Again, arterio-sclerosis was present in two of the three fatal instances, but no particular mention of the condition of the coronary arteries was made in the autopsy notes. It may be pointed out here that in none of my cases was aortic regurgitation or adherent pericardium (so far as could be determined) in association, but in two of the five cases reported there were evidences of arterio-sclerosis. In one case, in which severe attacks of angina still occur, the vasomotor apparatus is greatly disturbed during the seizures. I have had an opportunity to examine this case immediately after the paroxysm.

So soon as the pain is over gaseous eructations occur ; the heart's action, which is at all times markedly irregular, is unchanged, although the pulse at the wrist becomes almost imperceptible for a short period and dyspnœa is also temporarily aggravated.

The more or less characteristic features of fatty infiltration may become characterised suddenly, contrary to the general rule, in the course of subpericardial over-fatness which has lasted for a long period of time. Again, the turning-point in such instances may take place at a comparatively early period of life, and the approximate cause may be a single systemic shock (as childbirth) or repeated shocks, such as occurred recently in a case under my immediate observation. [The details of five cases are omitted.]

The cases briefly reported show pretty clearly that the transition from subpericardial over-fatness to fatty infiltration may be, so far as the symptomatic indications go, abrupt, on the one hand, and too insidious to fix the date of onset of the latter complaint on the other hand. In reviewing my cases it is seen that the most conspicuous symptoms were marked dyspnœa, syncope, and utter exhaustion on muscular exercise, with cyanosis, præcordial distress, anginiform pains at frequent intervals, and less commonly true angina, well-marked arrhythmia, and even *delirium cordis*; also asthmatic breathing and certain nervous phenomena, particularly emotional disturbance and mental apprehension. A basal systolic murmur was present in two cases, and cardiac enlargement was detectable in four. The urine contained a trace of albumin in one instance. In cases in which a murmur over the aortic area was present vertigo and syncope were annoying symptoms. It may be stated here that a basic systolic murmur is also rarely heard in cases of subpericardial over-fatness combined with vigorous cardiac contractions.

With reference to the question of diagnosis in this complaint it must be observed that neither the subjective symptoms nor the objective signs alone or in combination are conclusive, and partly for the reason that they vary considerably in different cases. The presence of the causative condition, extreme pericardial over-fatness, is all-important, and at once gives strength of probability to a diagnosis as one after another of the more characteristic features put in an appearance. An assured recognition of the disease is finally arrived at only after the closest scrutiny of all the symptoms and physical signs coupled with a judicious balancing of the data entering into the previous history of the patient. Should any of the primary affections, other than extreme obesity, that are liable to lead to fatty infiltration be present, this fact would clearly bear upon



the case, and the diagnosis of the special form of fatty infiltration under consideration would be precluded. Mere feebleness of the heart is not of great diagnostic value taken alone. We see this in a variety of conditions and diseases. I desire also to reiterate the fact that slight arrhythmia is not of any value for diagnosis in fatty infiltration.—*American Journal of the Medical Sciences*, April, 1901.

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#### 41.—ANEURYSM OF THE CORONARY ARTERIES OF THE HEART.

By T. WARDROP GRIFFITH, M.D.,  
Senior Assistant Physician, General Infirmary, Leeds.

[From Dr. Griffith's paper :]

In 18 cases (including the author's two) of which details could be obtained, I find that death from rupture into the pericardial sac occurred exactly in one-half. In Bougon's case no less than 40 oz. of blood was found in the cavity. Dr. Ogle states, on the authority of Mr. Pick, that the capacity of the normal pericardial sac with the heart unremoved is 18 to 20 oz., and doubtless in such cases the death is due not so much to the loss of blood as to the pressure on the heart.

In 11 instances the aneurysm was solitary, occurring four times on the right and four times on the left artery, while in three instances its situation is not noted. In the seven instances in which the aneurysms were multiple, they varied in number from three up to 12. In only two instances is it noted that the aneurysm was in the auricular wall ; in all the others it appears to have been on the main stem of the artery, or on the ventricular part of the heart, and usually on the latter. Some writers who mention the site state that the aneurysms were at or close to the points of origin of branches, a fact of some importance in relation to causation. In size they have varied from that of a chestnut to that of a small pea. In 14 instances the affection occurred in the male sex, and in four in the female. Of the 14 instances in which the age is noted, only five were above the age of 26, and the ages varied from 5 to 77.

It is now a well recognised fact that embolism plays a very important part in the *causation* of aneurysm, especially in the case of those occurring on the smaller vessels of the body. The exact way in which embolism gives rise to aneurysm has been discussed by various writers, and three of these views which call for comment are : (1) *The Retro-embolic view*, that is, the view

that the artery will dilate behind the plug from an increase of pressure consequent on the obstruction. Against this it is urged that aneurysm behind the point of ligature on an artery is rare, and, when occurring, is usually due to inflammatory softening of the vessel. (2) *Mechanical injury*.—Ponfick's view that the artery is mechanically injured at the point of impaction by calcareous spiculi may be the case in some rare instances, but it is clear that very few cases are capable of bearing this interpretation. (3) *Ulcerative endocarditis*.—Goodhart's view finds most general acceptance. He points out that most embolic aneurysms are associated "not with a simple endocarditis, but with an ulcerating form of the disease, a very severe form, generally producing fever and septic conditions"; and he points out that the clot from such a part will "lead to acute softening of the arterial wall by inoculating it with its own inflammatory nature." It is true that the term "ulcerating endocarditis" has been found to be too narrow, as many cases, highly septic in nature, are more vegetative or fungating than ulcerating. In harmony with this view the vessel dilates *at* the point of impaction and infection, and not above it, and this removes any difficulty in accepting the embolic causation of aneurysm that might arise from the fact that as a rule the plug is not found in these cases. This is exactly what one would expect. A non-septic embolon plugs the artery without causing any softening of its wall, and without therefore producing any dilatation, or, in the case of septic emboli, death may occur before it has had time to do so, and on post-mortem examination the *corpus delicti* is found, while if a septic embolon causes inflammatory softening of the walls, it will, by causing an aneurysm, lead to a condition favourable to its own disintegration and removal, and it is doubtless this fact that has led many writers entirely to omit all reference to embolism as a cause of aneurysm.

*Application of embolic theory to coronary aneurysm*.—Of the 18 there was distinct vegetative endocarditis in four, namely, in those recorded by Bougon and Ogle, and in the two I have described, and I think we can, with confidence, attribute the aneurysms to embolism in each instance, though it must be noted that, in Bougon's case, the patient was an old man, and the coronary arteries were studded with osseous plates. In Peacock's case the aortic valves were diseased, but the coronary arteries were bad, and the cause is not here so manifest. In Jackson Clarke's case, a girl aged 10, with about a dozen aneurysmal swellings, there was mitral disease, but no recent vegetations, and although the coronaries and their branches are noted as having their inner coats much thickened, I hold with Clarke that embolism is the most likely cause, as there were two extravasations of blood in the axilla and gluteal region,



presumably due to embolic changes there. In Heuse's and Crisp's cases the arteries are also mentioned as sound, and, though the latter patient was 63 years of age, the history of a copious hæmatemesis favours embolism of a gastric artery, and renders the embolic causation of the coronary aneurysm probable. In Peste's case, a man of 77, the arteries were diseased extensively, and the presence of a cyst in the corpus striatum would harmonise either with embolism or hemorrhage. Bristowe's case must have been embolic, I think. The patient was only 22, the aneurysms were mainly at points of divisions of the arteries, which elsewhere were quite sound, and there was pulmonary apoplexy, while the cortex of the kidney is described as being "thickly studded with buff-coloured patches and with dark red-coloured masses which were shown pretty conclusively by microscopic examination to be due to hemorrhage occurring at different times in different situations." It is difficult to give any cause other than embolism for Gee's case, in which the patient was 7 years old, and died with scarlatina, dropsy, pneumonia, and meningitis, for Malet and Evans's case, in which the child was only 5 years old, though in this instance the valves were noted as normal, or for the remaining Bartholomew's Hospital case, where the boy was only 11 years old. In the cases of Markoe, Wood, Hedland, and Merat, I can find no facts on which to form an opinion, but in the St. Thomas's Hospital case there was pulmonary hemorrhage and hemorrhage into the kidneys, conditions which I think suggest embolism more forcibly than that suggested by Douglas Powell, namely, that the patient, who was only 22 years old, was the subject of general arterial disease. I have intentionally refrained from any attempt to discuss the clinical phenomena of coronary aneurysm. The symptoms are, with the exception of those caused by rupture, chiefly those of the associated condition. The affection might be guessed at, but hardly, I think, diagnosed.—*British Medical Journal*, February 2, 1901.

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#### 42.—HEART DISEASE AND LIFE ASSURANCE.

By J. J. PERKINS, M.A., M.B. Cantab., M.R.C.P.,

Assistant Physician to St. Thomas's Hospital and to the  
Hospital for Consumption, Brompton.

[From Dr. Perkins' paper :]

In the rheumatic class the prognosis largely depends, provided the heart is well compensated, on the possibility

of the recurrence of acute rheumatism, as each additional attack increases the endocarditis. The intensity of the rheumatic tendency, as measured by the number of attacks, together with the length of interval since the last attack, are points to be made out ; the age of the patient is also important, acute rheumatism being a disease of early life. Dr. Sansom attaches so much weight to this point that he regards it as equal in importance to the condition of the heart at the time being, and where a recurrence appears to him probable he would reject the case on that ground alone. One must remember here that the history of rheumatism for mitral stenosis is to be sought in mild manifestations—*e.g.*, growing pains, rather than in acute joint attacks. The view which regards mitral stenosis as rheumatic in origin, like mitral incompetence, is almost certainly correct for most cases. Besides the history of the case and the age of the patient, the condition of the heart has to be considered, and, of course, is of prime importance. To be accepted, the severity of the lesion must be slight, as judged by the amount of enlargement and the effects on the pulse. Compensation must, of course, be good and proved equal to the demands made on it—*i.e.*, the history must show there has been no temporary failure for some considerable while. Further, the occupation must be quiet and regular, one which will not put much or sudden strain on the heart, and the habits good—*i.e.*, non-alcoholic.

The case of heart disease, then, to be accepted must be one of inconsiderable degree, well compensated, with no prospect of disturbance from exertion or strain, in a rheumatic subject of fair age, who has no intense proclivity to rheumatism, in whom the last attack was some years ago. If the heart is but little altered, the longer the interval from the date of affection the better—an important point as showing the stability of the condition. It would be very valuable if one could state the average result on the duration of life for each valve and form of disease, but the statistics are wanting. The opinion generally held, with some dissension it is true, is that of all the four forms of disease aortic stenosis is the least dangerous, and aortic regurgitation the most, from its liability to sudden death. Mitral stenosis is probably more dangerous than mitral incompetence, the average age of forty-two fatal cases given by Sansom being only 33.83 ; he regards the atrophy of the left ventricle present in pure stenosis as exercising a bad influence on the nutrition of all the tissues and favouring an early death. With regard to the average age, it must be remembered that stenosis is a condition of quite young life, dating often from childhood. Cases are occasionally seen in which life has been lived to a great age. The condition of the heart and pulse, and the absence of a recurrence of rheumatism, must decide, but



great caution must be exercised. It should be remembered that the severity of a mitral stenosis shows itself in cyanosis, and not in œdema, as in mitral regurgitation.

*Mitral regurgitation.*—Under this head fall examples of temporary dilatation. One must satisfy oneself, by the absence of enlargement or history of rheumatism, that the heart is sound in the case of these and exocardial murmurs. Double mitral disease it is best to reject. Aortic regurgitation should also be rejected, unless it is rheumatic of very slight degree, as shown by the condition of the heart and pulse—rheumatism must have been long absent. Aortic stenosis, as a single condition, is quite rare. The slight systolic whiffs heard in this area may be neglected if the condition of the heart is unaffected, and the life taken at ordinary rates. In later life these short systolic murmurs are of importance, as possibly showing commencing atheroma. Established stenosis undoubtedly shortens life to a great extent, especially if degenerative.

For those cases, then, that may be accepted, what addition shall be imposed? At the discussion, at a meeting in 1897, of the Life Assurance Officers' Medical Association, Dr. C. Theodore Williams, for cases he considered suitable for acceptance—*i.e.*, practically the cases considered suitable above, mitral cases without sign of progress and without right-sided enlargement or accentuation of the pulmonary 2nd sound—thought 5-10 years sufficient addition for regurgitation and 7-10 years for stenosis; he was not discussing aortic cases at all on that occasion. Succeeding speakers appeared to think his view too lenient. Sir R. D. Powell would curtail the expectancy by the last fifteen to twenty years of life, the period of degeneration and failing compensation, and then consider each case on its merits. Dr. Hector Mackenzie thought the expectation of life much diminished, speaking of mitral regurgitation, at the age of twenty-five. He advocated a system of short endowments with a considerable money extra. The general conclusion one could gather from the discussion was that cardiac disease should be accepted only on careful consideration and in certain selected cases, otherwise a heavy addition must be made.—*The Practitioner*, February, 1901.

## DISEASES OF THE ORGANS OF RESPIRATION.

## 43.—DIAGNOSIS OF MALIGNANT DISEASE OF THE LARYNX.

[From Drs. M'Bride and Logan Turner's summary in the *Edinburgh Medical Journal* :]

An anatomical rather than a pathological classification of malignant disease of the larynx should be employed, a basis which is not always sufficiently recognised. The subdivision of laryngeal cancer into extrinsic and intrinsic is one of great clinical importance. By extrinsic we mean the attachment of the growth to the epiglottis, the ary-epiglottic folds, the inter-arytenoid fold, and the cartilaginous framework of the larynx ; the disease is intrinsic when it grows upon the false vocal cords, the true cords, the ventricles of Morgagni, and from the larynx below the cords. There is a marked clinical distinction in relation to this anatomical classification, which is of undoubted therapeutic value. Intrinsic cancer is of slower growth, and is more of a local disease, the lymphatics only becoming affected late in the affection, while the extrinsic form is of shorter duration and spreads more rapidly to neighbouring parts, the lymphatics becoming involved at an early period. The importance of these facts is better appreciated when the subject of treatment is under discussion, but ignorance of them may lead to errors in diagnosis. It is unfortunate that cancer of the larynx does not present any one sign that would make an accurate diagnosis possible in every case. Notwithstanding the work done by Semon in this connection, with the consequent advance in our knowledge of the clinical features of an early case of disease, we still meet with difficulties. At the Twenty-Second Annual Congress of the American Laryngological Association, held in May, 1900, Noland Mackenzie makes an appeal for a more careful and fuller consideration of all the clinical facts connected with the case, and urges that the symptoms and local appearances should be most thoroughly weighed before resorting to other means of diagnosis. Semon, in his clinical picture, lays stress upon a simple congestion of one vocal cord, more especially if this is accompanied or followed by some tumefaction. When impaired mobility of the cord exists, it is a suspicious sign, depending upon the infiltrating character of the growth ; further, the snowy-white



appearance of the tumour with surrounding hyperæmic zone, and the pointed character of the individual projections of the papillomatous mass, form a suggestive contrast to the pinkish shade and more rounded appearance seen in true benign papillomata. Turning again to Mackenzie's paper, we find that he tabulates, in the order of practical usefulness and importance, the three following principal methods of diagnosis—(1) the naked-eye method, or diagnosis by direct inspection, supplemented by clinical phenomena; (2) thyrotomy; (3) the microscope: of the three methods, he adds that the second is often included in the first. In other words, in order to give the naked-eye method its full measure of usefulness, a thyrotomy may be performed for diagnostic purposes. When laryngoscopic examination either leaves a reasonable doubt as to the true nature of the disease, or fails to define its extent, then division of the larynx and direct inspection is justifiable. This, of course, is undertaken on the distinct understanding that the surgeon may proceed at once to such treatment as he deems advisable, should he consider the condition to be malignant. This procedure, it will be observed, is to be carried out before attempting to appeal to the microscope for a solution of the difficulty.

With regard to the inconclusiveness of the microscopic test, as mentioned by Mackenzie, it is interesting to observe what has been said by others for and against it. At the Twelfth International Congress, held in Moscow in 1897, there was considerable expression of opinion on this point. When the clinical symptoms and signs are in favour of cancer, and the histological examination gives a negative result, the clinical aspect of the case must be considered of greater value than the microscopic result. On the other hand, provided that the microscopist is a man of experience, an histological examination revealing cancerous tissue should outweigh all negative clinical evidence. It is possible for the portion removed to appear of a simple nature, when the growth is in reality malignant; the piece may not be of sufficient size, and it may not include the whole thickness of the growth. But the portion removed may prove the malignant nature of the tumour when the surgeon is otherwise in doubt, and therefore it is a procedure which should be undertaken in such cases. Both Chiari and Krause concluded that it was the only thoroughly reliable means of diagnosis. At the Thirteenth International Congress, held in Paris, B. Fränkel affirmed that microscopical examination was of fundamental importance in the diagnosis of laryngeal cancer, while Moritz Schmidt stated that when other means failed there should be a small piece excised for microscopic purposes. The first-named authority cautioned the observer

against basing a positive diagnosis merely upon epithelial processes, continuous with the surface and passing into the deeper parts of the tissue. It is perhaps hardly necessary to refer here to the use of iodide of potassium, and to a careful examination of sputum, for the purpose of excluding syphilis and tubercle. These are included in the general clinical features of the case. In spite, therefore, of Mackenzie's plea against this diagnostic procedure, we must sum up in its favour. Early diagnosis is essential for successful treatment, and in doubtful cases nothing should be neglected which will render this possible. In addition to this important factor, we must also duly recognise how favourably treatment and consequently prognosis are influenced by the great improvements which have recently been made in operative technique.

The operations which are practised for the removal of the malignant disease of the larynx are—(1) the endo-laryngeal operation ; (2) thyrotomy ; (3) partial excision ; (4) complete excision of the larynx.—*Edinburgh Medical Journal, February, 1901.*

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#### 44.—A CASE OF TYPHOID PLEURISY.

By HERMON CAMP GORDINIER, M.D.,

Visiting Physician to the Troy Samaritan Hospital ; and

AUGUST JEROME LARTIGAU, M.D.,

Tutor in Pathology, College of Physicians and Surgeons,  
Columbia University, N.Y.

[From Drs. Gordinier and Lartigau's paper :]

Pleurisy is not a common complication of typhoid fever ; when present it is ordinarily secondary to pneumonia, to an infarction, or to gangrene. Primary pleurisy is regarded as very rare. Bacteriological study usually shows the presence of the more common members of the pyogenic group of micro-organisms. However, a few isolated reports in literature demonstrate the etiological relationship of the typhoid bacillus to certain cases. Thus fifteen years ago Rendu and de Gennes claimed to have isolated the bacillus typhosus from the pus of an empyema. Two years later A. Fraenkel reported a similar case. These reports were followed by others. In 1889, Valentin isolated the typhoid organism from a purulent pleural exudate ; then Mya and Belfanti, in 1890, from a pleural abscess ; and Weintraud still later from a case of purulent pleurisy. More recently other examples have been published



by Dineur, Gerhardt, and Souques, Lesnè and Ravaut. The history of the case reported by us is as follows :

On July 10, 1899, the patient, a doctor aged 57 years, was obliged to take to his bed, having previously suffered for several days with malaise, loss of appetite, disinclination to work, together with headache, pains in muscles and joints, and colicky pains in abdomen. Bowels were constipated. *Present condition*.—Lips, ears, and fingers very cyanotic, face dusky. Respiration 60, pulse 120, small and irregular, arteries not thickened. Temperature 103 deg. Tongue coated with yellowish fur. Abdomen distended, no rose spots. Heart's apex diffuse in left fifth interspace just outside the nipple line, distinct epigastric pulsation. At apex a well-marked presystolic thrill was felt, and there was heard a presystolic murmur, followed immediately by a soft systolic murmur, which latter murmur was conducted to the axilla ; second sound at base reduplicated. Splenic dulness distinctly increased. Lungs, posteriorly at bases slight dulness, with fine, liquid râles ; abdomen very tympanitic ; slight tenderness in right iliac fossa. *Diagnosis* : Probably typhoid fever, with œdema and congestion of the lungs, the result of cardiac failure. Ordered nitroglycerine, digitalis, and strychnine. The urine contained a trace of albumin with a few hyaline casts. The blood showed a positive Widal reaction, but no leucocytosis. On July 17 the general condition was much improved, his pulse more regular and less rapid, and his cyanosis disappearing. At the base of the right chest posteriorly flatness existed, together with absence of voice sounds and vesicular murmur, this flatness extending into the axillary region, where opposite the fifth rib a friction sound was audible. Temperature 102.5 deg. F., and he had had fever continuously since my first visit. On July 19 a large, right-sided pleural effusion was present. In consideration of the displaced position of the already crippled heart it was deemed wise to remove the exudate at once. Accordingly I aspirated two quarts of a greenish-yellow, opalescent fluid, with much temporary relief. On the 24th, owing to recurrence of extreme dyspnœa he was again tapped, a little less than two quarts of a similar coloured fluid being removed. On July 30 I had occasion to again aspirate him, removing twenty ounces of fluid, more milky in character and of much greater consistency. The bacteriological examination showed the typhoid bacillus in pure culture.

For the most part the cases thus far reported have occurred in men ; usually the left side was affected. Few cases have been reported as occurring early in the attack of typhoid fever ; the third week of the disease seems to be the favourite time of onset. One of the most striking features of these pleurisies incited by the bacillus typhosus is the almost uniform character of the pleural exudate. Although hemorrhagic and serofibrinous exudates occur, in the majority of instances the aspirated fluid has been found to be purulent in character. Our own case was no exception to this rule.—*American Journal of Medical Sciences*, January, 1901.

## 45.—HYDROTHERAPY IN PNEUMONIA.

By SIMON BARUCH, M.D., New York.

[From Dr. Baruch's paper :]

While the typhoid patient, as a rule, bears the disturbance involved in tub bathing fairly well, such a procedure is extremely distressing in pneumonia by reason of dyspnœa, cough, and pain. Although Vogl of Munich, Folsom of Boston, and others have reported good results from the cold full bath, I have abandoned them in adults for these reasons. In the pneumonia of young children, who are easily lifted, I still use full baths of moderate temperature (95 deg. to 80 deg.), or affusions of water of lower temperature (70 deg. to 60 deg.) in the broncho-pneumonias with obstruction, because pleurisy is usually absent, and the shallow breathing and deficient oxygenation due to bronchial obstruction are greatly relieved by the agitation, crying, and coughing incident to the full bath, with friction. It is my rule in all cases to be present during the first bath, in order to note the reaction and obtain other information for future guidance, because individuals differ materially in their response to bathing.

While each case demands special study with regard to baths, I usually begin with a tub bath (given alongside of the bed) of 5 deg. below the patient's temperature, and diminish the bath 2 deg. or 3 deg. at each repetition in four hours until 80 deg. are reached. The child's head and face are bathed in water at 65 deg. before entering the bath, and gentle friction is made over the body during the entire bath. During the interval between the baths the method pursued in adults is adopted. In the latter, I have for the reasons stated substituted the wet thoracic compress for the full bath. It is my custom to have the rectal temperature taken every hour when the patient is not asleep. So long as the thermometer registers over 100 deg., a compress made of three folds of old coarse linen wrung out of water at 60 deg. F. is wrapped around the chest from the clavicle to the umbilicus. It should be long enough to lap over one inch in front, and so slit in its axillary portion that it may rise easily up to the clavicle without leaving rough folds in the axilla. This compress is smoothly wrapped around the chest and covered by one larger of thin flannel, an inch wider and longer.

By changes in the preparation of the compress we may modify positively the effects aimed at. If, for instance, the body temperature is not very high, say from 100 deg. to 102 deg., the compress may be more thoroughly wrung out, so as to make the impression of cold more brief, reaction more



rapid and less enduring. If the temperature be high, 103 deg. or above, the water temperature may be raised to 65 deg., more water may be allowed to remain in the compress, thus rendering the reaction more slow and enduring and abstracting more heat. In the first instance the application will be more stimulating, in the latter more soothing and antipyretic. If the patient is easily chilled or does not react readily, whether the body temperature be moderate or very high, the compress may be allowed to remain longer without change ; its repetition may vary from half an hour to an hour, or even longer, according to the patient's condition, his reaction and other effects produced and aimed at. Such cautious adaptation will gradually improve or regulate the reactive capacity of the patient, and sooner or later will enable him to bear more frequent repetition. It must always be borne in mind in all applications of cold water that shock is to be avoided ; there should be no prolonged chilliness, no chattering of teeth, no cyanosis of lips, nails, or face ; in fine, every manifestation which indicates a depressing effect demands a modification of the procedure or its abandonment if need be.

To sum up briefly the effect of hydrotherapy in pneumonia, I would say that its judicious application fulfils all the therapeutic indications in this disease by meeting all the depreciating conditions which lead to a fatal termination. Only one condition is unaffected by this treatment, namely, resolution. I have observed crisis only in about 25 per cent. of cases. The local course of the disease appears to be unchanged. Resolution proceeds slowly but surely. The patient has a normal temperature, pulse and almost normal respiration from five to twenty days before all signs of consolidation have disappeared. In the meantime I permit him to go out in mild weather and endeavour to hasten convalescence by the usual measures, good food, gentle out-door exercise, ventilation, &c.—*Boston Medical and Surgical Journal*, October 18, 1900.

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#### 46.—DYSPEPTIC ASTHMA.

By FRANK H. MURDOCH, M.D.,  
Pittsburg, Pa.

Hemmeter (1) writes of dyspeptic asthma as follows : “A fear of smothering, with cyanosis, cool extremities, greatly hurried pulse and dyspnœa, occurring in the sequence of gastro-intestinal disturbances, represent a clinical picture, which we can designate as asthma dyspepticum.” In the chapter on chronic gastric catarrh, Einhorn (2) says : “After meals there is a sensation of

fulness in the gastric region, and the patient feels oppressed. This feeling, if present in a higher degree, sometimes gives rise to symptoms of quite an alarming nature. Thus the patients complain of palpitation of the heart, and shortness of breath (asthma dyspepticum). The oppression experienced is relieved by belching." Ewald (3), in speaking of pneumatosis or tympanites, says: "Here the stomach is filled with gas, and may become so distended that it causes, not alone the unpleasant sensation of marked tension, but even severe nervous symptoms, by pushing the diaphragm upward, and pressing against the heart. The patients are seized with typical attacks of asthma, the asthma dyspepticum of Hensch, in which there is only the annoying feeling of being compelled to take deep inspirations, after short periods of normal breathing. At the beginning this suffices; but later it develops into an incessant dyspnœa. Now there is also palpitation of the heart, pulsation of the peripheral vessels, fullness of the head, and even the feeling of impending death or complete unconsciousness. Relief can only be afforded by bringing up some of the gas, and then the attack rapidly subsides. In Allbutt's *System of Medicine* (4) the disease is thus described: "The asthmatic attacks (asthma dyspepticum) appear suddenly after meals, and are characterised by urgent dyspnœa, cyanosis, and a slow or irregular pulse. The symptoms rapidly subside after vomiting has taken place."

The authors quoted agree pretty closely in their description of the acute form of the disease, with its sudden onset and rapid subsidence of all the alarming symptoms so soon as the stomach is emptied of gas or other offending material. But there is another form of the disease, chronic dyspeptic asthma, which I have not heretofore seen described, and which is characterised by great shortness of breath on slight exertion, the condition being not paroxysmal, but continuous; it occurs in patients suffering from gastro-intestinal diseases, without any abnormal condition of the heart, lungs, or kidneys, sufficient to account for it, and yields readily to treatment directed against the existing dyspepsia. Patients suffering from this form of the disease do not experience shortness of breath to any great degree after eating. Vomiting has not occurred in the cases that I have seen, and the dyspnœa has, as a rule, not been relieved by belching. The shortness of breath is constantly brought on by some trifling exertion, as walking, going upstairs, stooping over to lace the shoes, or putting the clothing on or off. One man got quite out of breath in my office from simply taking off his coat, vest, and shirt, for examination. As soon as he lay or sat down he was able to breathe quietly, only to experience shortness of breath again while dressing. One patient was obliged to sit down or lean against a building three or four times



in going from his home to his place of business ; and another had to rest in a similar manner seven or eight times while walking from the railroad station to my office, a distance of half a mile. In some cases, slight exertion soon after meals caused greater shortness of breath than the same amount of exertion would cause at other times of the day. Some of the patients suffered from attacks of dyspnœa during the night. One patient, when an attack came on, would rush to an open window for air ; another would grasp the mantel or head of the bed and struggle for breath ; while yet another was relieved by rising and moving round the room. In all three, the attacks passed off in a few minutes without vomiting or raising gas, and without the administration of medicine. [The details of five cases are given. They all improved under treatment directed to the stomach, including lavage.]

From the report of these cases it may be learned that three of the patients were suffering from achylia gastrica, one from hyperchlorhydria, while in one the gastric secretions were about normal, so that chronic dyspeptic asthma is not constantly associated with any one form of stomach trouble. None of the five, however, came complaining of dyspepsia ; what they did come for was to obtain relief, if possible, from the distressing shortness of breath from which they suffered. It will also be seen that while an acute attack of dyspeptic asthma, coming on as it does after a meal, is relieved, for the time at least, only by emptying the stomach, the dyspnœa attending the chronic form of the disease, being induced by exertion, however slight, is temporarily relieved only by rest. In one case the sudden attacks coming on at night were always the result of mental worry, and so it is fair to suppose that the attacks of a similar character experienced by two others were also due to a disturbed condition of the nervous system. In both the acute and chronic forms of the disease permanent relief can only come from restoring the digestive organs to a healthy condition.—*New York Medical Journal*, January 12, 1901.

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#### 47.—SKIAGRAPHY IN THE DIAGNOSIS OF CHEST DISEASE.

By Dr. HUGH WALSHAM and Dr. CLIFFORD BEALE.

The authors read a paper and exhibited a large number of skiagraphs showing the shadows thrown in various morbid conditions within the thorax. To obtain a satisfactory shadow, either upon the fluorescent screen or the sensitive plate it was

necessary to employ a powerful coil capable of yielding a 12-inch or 13-inch spark. The patient should lie on a couch face downwards, the sensitive plate, duly protected from light and injury, being placed under the chest, and the tube from 2 ft. to 3 ft. above it, great care being taken that the anti-cathode in the tube should be placed exactly vertical to the part of the chest to be examined. Stereoscopic views could be obtained by means of Mr. Mackenzie Davidson's apparatus. An exposure of two minutes was, as a rule, sufficient in the case of the chest, but the greater the distance of the tube from the object the longer should be the exposure. In observations with the fluorescent screen the tube must of necessity be closer to the chest wall, and allowance had then to be made in interpreting shadows, for the apparent enlargement of the tissues lying nearest to the tube owing to the divergence of the rays. It was always advisable to examine with the screen from the back as well as from the front, and useful information could often be obtained by diagonal observations. No danger need be feared where the rays were passed only for a few minutes at a time. Cases of dermatitis had from time to time been reported, but in such instances the exposure had been excessive, namely, from half an hour to two hours. To interpret morbid shadows it was necessary to study those thrown by the normal thoracic tissues. Several skiagraphs of healthy chests were shown, in all of which the shadows of the heart, diaphragm, and mediastinal tissues were clearly seen, but in addition certain faint streaks near the left side of the heart, and both sides of the mediastinal shadow. These were shown to be due to the pericardium and visceral pleura. The shadow of the scapulæ, the anterior axillary fold, and in some cases of the nipple, must be recognised as normal, but they were easily identified by moving the arms. Healthy lungs were shown to be translucent. It had long been recognised that advanced tuberculous changes showed definite shadows, but the very earliest deposits of tubercle did not yield any appreciable shadow. Cases were quoted and exhibited, proving that tuberculous shadows could be detected before the presence of tubercle was indicated by any abnormal physical signs, and that in suspected early cases where no shadow appeared, there was no subsequent evidence of disease being actually present. In cases of unilateral disease a shadow was sometimes to be found at the other apex also, and in many such instances the extent as well as the presence of the disease could be clearly defined. The more advanced the disease the darker the shadow, especially where caseation was in progress. Cavities were indicated by light areas in the midst of dense shadows. Fibroid changes and adhesions only gave rise to a shadow after they had attained a definite density, and the



shadows differed considerably from those thrown by tubercle. Emphysema was indicated by exceptional translucency of the affected parts of the lungs. In early dry pleuritis only a very faint shadow could be detected. Serous effusion caused faint blurring of the rib shadows but did not obliterate them, but the upper margin of the fluid frequently showed a clear line of demarcation. Purulent effusion, on the other hand, caused very dark shadows. A tube of pus removed from the pleural cavity gave a shadow almost as dark as that of bone, and very much darker than the shadows of a similar amount of fluid blood or serum. Abscesses, like caseating nodules, threw dark shadows, and even through thick tissues, such as the kidneys, caseous tuberculous nodules were shown to be clearly discernible. In heart diseases the rays were of less diagnostic value, but more observation was necessary on this point. The most important use of skiagraphy in chest disease was for the detection of morbid growths and aneurysms. Many examples of the latter were shown in which the evidence afforded by the rays was far more precise and definite than that obtained by the ordinary methods. Enlarged and caseous glands cast recognisable shadows. By means of the skiascope the movements of the heart and diaphragm could be watched, and the condition of aneurysms, whether full of dark clot or semi-translucent fluid blood, with the extent and position of their maximum pulsation, could be determined with a fair degree of accuracy. Much more work remained to be done on the subject, and the paper was put forward only as a preliminary statement of the observations already made.—*From Report of Proceedings of the London Medical Society, British Medical Journal, January 19, 1901.*

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#### 48.—THE DIAGNOSIS OF THE PREBACILLARY STAGE OF PULMONARY TUBERCULOSIS.

By J. M. ANDERS, M.D., LL.D.,  
Philadelphia.

[From Dr. Anders's paper. By prebacillary stage the author understands the stage before the appearance of tubercle bacilli in the sputum :]

*Physical examination.*—The paralytic thorax is generally in evidence during the initial stage of pulmonary tuberculosis, and should be looked on as the resultant of an incipient tuberculous process in the majority of cases rather than an antecedent condition. It must not, however, be confounded with an

extreme emaciation nor the deformity which simulates it, due to occupation, as habitually leaning over a desk, and the like. Conversely, the flattened chest, with its short antero-posterior diameter (paralytic thorax), may be concealed in subjects of obesity during the incipient stage. I am in thorough agreement with Loomis that the data obtained by measuring the circumference of the chest are more important than its shape. This thoracic perimeter, which represents two measurements, one at the end of forced expiration and the other of forced inspiration, should never fall below one-half the height of the individual. It has been shown that when the thoracic perimeter is lower than this, early phthisis exists, although this may assume a latent form. In connection with the phthisical thorax and chest measurements, the vital capacity as determined by the spirometer, is of confirmatory value in diagnosis, particularly when considered in relation to the height.

Preceding the finding of bacilli in the expectoration, obvious physical signs, variable in character, are quite commonly met with, and may endure for weeks, or even months, ere the diagnosis is set at absolute rest by the stage of the microscope. These abnormalities are first detected in the subapical regions, and in my cases they have occurred posteriorly in, perhaps, the majority of instances. Turban wisely remarks that "the scapula must be abducted by drawing the arm across the chest, so as to give access to the cage of the chest between its edge and the spine." He also states that light and single percussion must be used. I have for years given preference to single as compared with multiple blows in early cases in which it was desired to outline minute consolidated areas. I have also frequently convinced myself of the practical importance of percussing every inch of ground when a search for the primary lesions in the usual situation (subapical area) gives a negative result. Among the earliest and perhaps the most significant signs is the diminution or almost total loss of the normal vesicular murmur. To test the strength or weakness of the vesicular quality of the murmur, the corresponding regions on the two sides must be invariably compared, both during quiet and deep breathing. Coupled with or following on enfeeblement of the normal vesicular murmur, prolongation and sharpening of the expiration are generally noted. The tactile fremitus may also be increased, but this is often absent on account of associated pleurisy. I regard defective expansion at or a little below one apex as profoundly significant, particularly if observed in the infra-clavicular spaces, and in some of my cases "lagging" was the first and for a considerable period of time the only recognisable physical sign. It is best appreciated by palpation. The most characteristic grouping of physical signs during the first stage—



sometimes in evidence prior to the discovery of tubercle bacilli—may be thus summarised: “Lagging,” or defective expansion, as noted in inspection and palpation, a localised increase in the tactile fremitus, enfeeblement of the normal vesicular murmur with (at a later period) prolongation and sharpening of the expiration. To the signs mentioned above should be added a clicking râle, which, though less commonly present, is an almost conclusive indication.

The percussion note may be impaired or deadened, but this sign is quite unreliable in the earliest period, becoming more trustworthy, however, as consolidation progresses. A pleuritic friction sound may be rarely heard in the apical area: it is usually dependent on the tuberculous process. Later crepitant and subcrepitant râles (moist sounds) are heard, and greatly increase the probability that tuberculous infiltration has taken place. Among other suggestive, invasive symptoms and conditions are: (1) Pleurisy. This may take the form of serofibrinous pleurisy, inasmuch as about one-third of these cases terminate in chronic phthisis—Bowditch. It may also assume the guise of a dry pleurisy at the apex, either anteriorly or posteriorly. (2) Gastro-intestinal symptoms, with chloro-anæmia. The digestion is impaired; there is a rapid loss of flesh and strength, and an afternoon rise of temperature, with pronounced anæmia. This grouping of features (chloro-anæmia) is often followed by the appearance of the earlier positive indications of pulmonary tuberculosis. (3) Hæmoptysis. This may be the first symptom to excite suspicion of lung disease. In many of these cases a typical picture of incipient pulmonary tuberculosis is found on examination, and they may pursue the usual course, showing that a slight tuberculous lesion was an antecedent condition. I would here throw out the caution that all other causes for the spitting of blood should be carefully excluded, unless the evidences of commencing phthisis are conclusive at the time of the occurrence of the primary hemorrhage. (4) Onset with symptoms of laryngitis. Although rare, there are cases occasionally met, characterised by hoarseness, aphonia, and troublesome cough, with a slight muco-purulent expectoration. The bacilli may be found in the sputum before any lesions of the lungs are discoverable.

The clinical evidences of commencing phthisis mentioned above justify a probable diagnosis; they are diagnostic aids, and if two or more are found in combination, as is usual, should be regarded as presenting the therapeutic indications of this affection. It has been argued that the physical signs furnish the basis of an assured diagnosis. While it must be conceded that the physical signs enable a keen observer to recognise with reasonable certainty the existence of phthisis—at times before

all doubt is removed by the stage of the microscope—it is even more true that once these signs disclose the presence of pulmonary tuberculosis, the disease has passed beyond the incipient stage as this term is understood at present writing. The presence of a slight afternoon rise of temperature, if associated with either local or general disturbance, should arouse strong suspicion, since it would be difficult to overestimate the diagnostic importance of this symptom. A two-hourly thermometric record must be kept during the entire day, for several days together, or the rise of temperature may elude detection.—*Journal American Medical Association, January 12, 1901.*

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#### 49.—PROGNOSIS IN PULMONARY TUBERCULOSIS.

By ROBERT MAGUIRE, M.D., F.R.C.P. Lond.,

Physician to the Hospital for Consumption and Diseases  
of the Chest, Brompton.

[The following is taken from Dr. Maguire's remarks on the relation of prognosis to physical signs :]

Slight lack of resonance, with deficiency of breath sounds and of respiratory movement but without adventitious sounds, and these signs again limited to one apex, indicate a well-known physical condition, of which, however, we have no accurate post-mortem record. We believe, however, that the condition is one of slight collapse of the air vesicles due to a very early stage of catarrh. It is the most favourable state in which the tuberculosis can present itself and lends itself most readily to treatment and to perfect recovery. A further development of this condition causes still greater collapse of the lung and can be demonstrated by estimating, best by auscultatory percussion, the height of the apex posteriorly. The affected side can then be shown to be distinctly lower than the healthy side. Such a condition is naturally of somewhat less favourable prognosis, but frequently is recovered from. But the future of the case is much more doubtful if adventitious sounds in the form of râles are found, and not infrequently they can only be detected after cough. I think myself that the finer the râle the more favourable should be the prognosis, coarse and almost bubbling râles indicating a more intense and more advanced catarrh. Obviously, also, the greater the lack of percussion resonance the more unfavourable should be the opinion, but with one reservation, namely, in the condition of so-called



“emphysematous phthisis,” which will be mentioned below. The above include most of the signs met with in this stage. But their localisation is of extreme importance. Most frequently the signs are present at the apex of the lung. We hear at times of basic tuberculosis, but this is very rarely of primary origin. Out of 22,000 persons (of whom roughly speaking 19,000 were cases of pulmonary tuberculosis) who passed under my hands in the out-patient room of the Brompton Hospital, I found only some sixty cases which I could believe to have originated as a primary tuberculosis of base of the lung. This rarity is unfortunate, for such an onset of the tuberculosis in my experience bears a fairly favourable prognosis, not only as to the probability of cure, but also as to slowness of course and the liability of infection of other portions of the lung. I speak here of primary tuberculosis of the base and not of tuberculosis grafted upon a previous unresolved pneumonia. A secondary lesion of the base bears a very unfavourable prognosis, as indicating an advanced condition of the process. Now the position of a basic lesion at the upper part of the lower lobe or near the large branches of the bronchi should at once raise the suspicion that it is of secondary nature and should lead to a still more careful examination of the apices, for it is in this position that, by at least two of the methods of spread which I shall have to mention, such lesions occur. On the other hand, the more favourable primary basic lesion is generally situated in the lower parts of the lower lobe.

So far I have dealt with the position of a primary lesion in the upper and lower lobes respectively. But in the right lung we have a third lobe, the middle lobe, and occasionally it happens that this third lobe is in the left and not in the right lung. I need not here describe at length how one can define the limits of these lobes. Certain landmarks have at times been given for them, but they are very uncertain, and I have formerly demonstrated to another society and published elsewhere how the limits of the lobes can be located with the greatest accuracy by the method of auscultatory percussion. Roughly speaking, the middle lobe lies below the right nipple, but if a primary lesion be located below the left nipple I think it very desirable at once to determine by the method mentioned whether there is in that instance a middle lobe of the left lung ; and here is my reason for mentioning this matter in connection with prognosis. Given that the primary lesion under discussion is really in a middle lobe, on whatever side it may be, then the prognosis is distinctly bad. Not that I would go so far as Dr. Mitchell Bruce and say that the tuberculosis is then generally rapidly fatal. Often it is ; but when not rapidly fatal it is

exceedingly resistant to treatment. The behaviour of the middle lobe is also marked in the case of secondary lesions.

The more numerous the initial lesions the more unfavourable must be the prognosis, and, still further, that the more widely-distributed such lesions the worse the prognosis, while multiple lesions limited to one lung will warrant a somewhat more favourable opinion than when both lungs are affected. But here again, we must be very careful not to confuse secondary with primary lesions, for bad as the presence of secondary lesions may be, it is not so bad as that of multiple primary lesions. The bad prognosis of multiple initial lesions has as its basis, not only the greater damage done to the lung tissue and the probability of still further damage in the future, but also—and this is probably of greater importance—the intensity of the tuberculous poison and the great vulnerability of the system which such multiple lesions indicate. I know of no beginning in phthisis which bears a more unfavourable prognosis than that of multiple pleuritic onset. As a rule, in a short time patches of consolidation appear in the neighbourhood of the pleuritic areas, those patches soften and form small cavities, but still more important is the fact that intense, so-called “hectic,” fever develops and the whole system collapses, giving way to other developments of the tuberculous process with a rapidly fatal ending. The second most serious form of beginning is that which in its ordinary development has been described by Dr. Mitchell Bruce as “emphysematous phthisis.” It is acute in its onset and course. The patient complains simply of cough, choking in character, great difficulty of breathing, and on physical examination nothing can be found but the ordinary signs of emphysema. The sputum is bronchitic, mucous or muco-purulent, yet if the physician be on his guard and further examines it, he will find the tubercle bacillus. The temperature may be normal, yet sometimes it is raised irregularly, and this should cause a suspicion of the nature of the case. Further—and these are most important points—the patient wastes and becomes progressively weaker, his appetite fails, and none of the ordinary remedies for bronchitis and emphysema seem to have any good effect. So does the case go on for a short time until at last there come an outbreak of physical signs, patches of pneumonia, and afterwards of mal-resolution of the same, increased fever and weakness, and finally breakdown of both lungs, with its usual accompaniments, and death. This is one of the most serious of beginnings for tuberculosis of the lungs.

A useful guide in prognosis is the following : If the symptoms are out of all proportion greater than the physical signs, think badly of the future of the patient.—*The Lancet*, December 1, 1900.



## 50.—SOME RESULTS OF THE NORDRACH TREATMENT OF CONSUMPTION IN IRELAND.

By P. S. HICHENS, M.A., M.B., B.Ch. Oxon, M.R.C.P. Lond.

[From Dr. Hichens' paper:]

As the writer of this article had a personal experience for six months of the Nordrach treatment at Nordrach, as he believes that this method of carrying out the open-air treatment is very much the best, and as he has now, by the invitation of the proprietor of the Rossclare Sanatorium, had the opportunity of carrying out personally this treatment in Ireland for nearly a year, he has thought it might be of some interest to give a short account of Rossclare, the Nordrach method as carried out there, and two or three concrete examples of the results obtained.

The Nordrach method of treatment consists of three simple things: (1) Abundance of fresh air at all times, day and night; (2) superabundance of food; (3) exercise graduated according to the state of the body temperature. It will be said that there is nothing peculiar in this, that these are the remedies that are used at all the sanatoria. That is perfectly true, but it is in the detail of supplying these simple remedies that the excellence of the Nordrach system consists. To take, for example, the last point first, as this is one of the most important. All patients under this system take their temperature in the rectum four times a day regularly—on waking in the morning at about 7, at 12 noon, at 6 p.m., and after getting into bed at night shortly after 9. The rectal temperatures are taken because they give a much more accurate indication of the state of the body temperature than oral temperatures, and because in an illness like consumption, where there is often prolonged, very slight fever, it is most important to have an accurate indication of these slight rises of temperature. As is well known, the rectal temperature in health may vary between 98.6 deg. or below in the morning, and up to 100.4 deg. after exercise, or occasionally after meals. The patients' rest or exercise depend entirely on the temperature remaining between these normal limits. With very few exceptions, the patients are kept entirely at rest in bed, unless their temperatures are 98.6 deg. or lower on waking, and do not rise above 100.4 deg. in the course of the day. Moreover, the patients are kept at rest in bed for a week after all fever has disappeared. With the absence of fever patients first get up and lie on the couch in their bedrooms, then go down to a chair in the shelter, and finally take walks of gradually increasing length and walked very slowly, at the pace of about two miles

an hour. No form of exercise other than slow walking is allowed. On coming in from their walks the patients always rest for an hour before their meals on the couches in their bedrooms. This ensures their being thoroughly rested and in a favourable condition to digest their meals. This brings us to point two—the superabundance of food. Under this system the patients have only three meals a day—breakfast at 8, dinner at 1, and supper at 7. There is nothing peculiar about the dietary, except that it is particularly abundant in butter, milk, cream, and potatoes. While it is necessary for the patients to gain weight they have 3 pints of milk a day,  $3\frac{1}{2}$  ounces of butter, besides that used in the cooking, and a small amount of cream. It is not possible to say exactly how much meat or its equivalent in fish or poultry they each have, but, in calculating the supplies, 2 lbs. of meat, including bone, or rather more of fish or poultry, are allowed a head a day. The diet is merely as nutritious and varied as possible. At breakfast the patient has a pint of milk,  $1\frac{3}{4}$  ounces of butter, with bread and toast, and a help of whatever dish there may be, such as bacon and eggs, fish, &c. At dinner there are three courses—(a) soup, fish, or chickens, or some *entrée*, with—except in the case of soup—potatoes; (b) some joint, with potatoes and other vegetables; and (c) a tart or pudding with cream, or sometimes fruit and biscuits. At supper there are two courses, generally both of meat—the first, cutlets or various other things with potatoes; the second generally some cold meat, tongue, ham, &c., and usually with a salad. At supper the patients take another  $1\frac{3}{4}$  ounces of butter, and at both dinner and supper another pint of milk. At each meal the patients are helped individually to everything by the doctor himself, and each patient is given to understand that the helps must be finished. The patients are not merely encouraged to eat—they are told that there is no part of the treatment more important, and that unless they eat what they are given it is no use staying at the sanatorium. It is only in very rare cases that they have not the good sense to acquiesce. When the patient has reached a really good weight for his height and general development, the amount of food, especially of the milk and butter, is diminished, and it is made the aim to keep him at that level of weight. In exceptional cases, where there is much vomiting and diarrhœa, the diet is somewhat modified.

The first point—abundance of fresh air—is obtained by having the bedroom and sitting-room windows open in all weathers while the patients are indoors, and by their spending the greater part of the day out of doors on their walks or in the shelter. Added to these chief means of treatment are, of course, suitable drugs when necessary, and trained nursing.



The daily life of a fairly healthy patient is, then, as follows: He begins the morning about 7 by taking his temperature, and then dressing for breakfast. About 8 the doctor pays him a visit, and appoints him a walk to some exact spot, according to his temperature and general strength. After breakfast, at 9, the patient starts out on his walk, which is taken slowly, and lasts until a quarter to 12. The walks are taken in all weathers, unless there is very heavy rain or an exceptionally violent wind. On coming back the patient goes straight to his room, takes his temperature, and reclines on his couch, reading, writing, or merely resting until dinner time at 1. Before dinner the doctor again visits him, and tells him to spend the afternoon either sitting in the shelter or on a short walk interspersed with much sitting about. At a quarter to 6 he again retires to his room, takes his temperature, and rests on his couch till supper time at 7. Before this he is again visited by the doctor. After supper the evening is spent in the sitting-room or in the shelter, as the patient prefers. At 9 he goes to bed, and again takes his temperature. The patients are weighed once a week, and their chests are examined at least once a month. The sputum is also examined once a month.

This life may seem monotonous, but the complete absence of excitement is a very essential part of the cure, and with reading, social intercourse, the walks, and a certain amount of music, the time passes without much *ennui*. By this minutely and carefully regulated method of life the most excellent results have been obtained in this inclement Irish climate—results not, I believe, in any way inferior to those obtained on the Continent at Nordrach. The numbers treated so far are too small to be tabulated in any statistical form.—*Dublin Journal of Medical Science*, March 15, 1901.

## 51.—ON A SIGN OF INTRA-THORACIC TUMOUR INVOLVING THE POSTERIOR MEDIASTINUM.

By GRAHAM STEELL, M.D., F.R.C.P.,  
Physician to the Manchester Royal Infirmary.

[Dr. Steell reports a case and makes the following remarks:]

The feature presented, to which I wish specially to call attention, was the remarkable and uniform thrusting forwards of the heart *en masse*. The ordinary impulses of the heart are (1) the apex-beat, representing the impulse of the left ventricle, which alone forms the apex of the heart; (2) the diffuse impulse, corresponding to the movements of the right ventricle, usually observed best in the epigastrium; and (3) the

weak impulse, which appeals to the sense of sight rather than to that of touch, seen to the left of the sternum in the second intercostal space when the infundibulum of the right ventricle has become dilated, and most commonly in cases of chlorosis and of mitral stenosis. In the case described none of these impulses could be distinguished. The whole heart seemed to thrust itself forwards *en masse* during systole, the explanation no doubt being the implication of the posterior mediastinum by the growth. Dr. Moore's statement is specially to be noted in this relation when he speaks of "a hard mass in the upper parts of the middle and posterior mediastina, on which the base of the heart appeared to rest." The heart—I refer, of course, to the ventricles, and especially the left ventricle—during its diastole is flaccid, and may be supposed to a large extent to assume the shape of the space surrounding parts are disposed to afford it. In this relation the effect of the elasticity of the lungs must be borne in mind. But when the heart muscle enters into systole the organ becomes a rigid mass, before which the surrounding soft parts—and therefore the anterior chest-wall when the posterior mediastinum is encroached upon—have to give way. This is the consideration that, I believe, explains the phenomenon in question.

I observed the sign first of all when I was resident medical officer in the Infirmary, some twenty years ago, the case being, as that under consideration, one of lympho-sarcoma, with the formation of large masses behind the heart in the posterior mediastinum. Since then I have observed the sign in other cases, one of them being a case of aneurysm of the descending thoracic aorta, in which it was impossible to say how much the impulse was cardiac and how much aneurysmal. Writing in 1891, I thus referred to the phenomenon in the case of solid tumours: "In cases of intra-thoracic tumour in the posterior mediastinum, in which the heart is pushed forwards from behind, the cardiac impulse is observed in an area almost co-extensive with that of the whole organ, and the usual impulses of the right and left ventricles escape recognition in this diffuse general impulse. The heart during its diastole accommodates its shape to surrounding parts, but during systole it asserts the (more or less) circular outline presented by its ventricles in a state of contraction; hence the forward impulse when the posterior mediastinum is encroached upon by tumour." As to the other signs and the symptoms of the case, they may be divided into three groups: (1) those pointing to the mere fact of an intra-thoracic tumour, in the general sense, exerting pressure on surrounding parts; (2) those pointing to such tumour being an aneurysm; and (3) those pointing to its being a solid new growth or neoplasm. In the



first group may be enumerated: a "mediastinal" area of dulness, respiratory stridor, pulmonary signs indicative of interference with the large air tubes, and dysphagia—the last a surprisingly rare symptom. In the second group may be placed the following signs and symptoms: paralysis of the left vocal cord, systolic murmur, and strong second sound in the aortic area (the second sound, however, could hardly be called truly accentuated, though it was loud). In the third group—*i.e.*, in favour of solid growth or neoplasm—were: absence of visible pulsation in the upper sternal region and its neighbourhood, absence of tracheal tugging, equality of the radial pulses and the characters of their sphygmograms, the lymphatic gland enlargement in the neck that preceded the pressure symptoms, and lastly the peculiar precordial impulse described.

There are several signs and symptoms which might be placed either in group two or in group three, and which are of no great significance in either direction. Among these is engorgement of veins, cervical, upper thoracic, or brachial, which is often regarded as being more common in cases of new-growth; but the most extreme example of such venous engorgement I ever saw occurred in a case of aneurysm, and in a subject only 22 years of age. In the case of William W. the veins escaped. Then there is hæmoptysis. No doubt so-called "weeping" intra-thoracic aneurysms are not very rare. I had a case in the wards last year in which slight hæmoptysis was a daily occurrence for many weeks preceding the fatal gush. The presence of murmur might be supposed to point in the direction of aneurysm rather than growth; but in the *Medical Chronicle*, December, 1890, I described a case of intra-thoracic growth in which a widely-distributed murmur similar to that audible in the present case occurred. Certainly implication of the recurrent laryngeal nerve tells in favour of aneurysm, but it is not unknown in growth, as the present case witnesses, as did also one I observed while resident medical officer in the Infirmary. The stridor being present in expiration, while there was no swelling of the larynx, indicated direct pressure on the trachea or bronchi, which might result either from aneurysm or neoplasm.

The absence of all pulsation from the upper thoracic region, and of tracheal tugging, in the presence of the mediastinal dulness and intra-thoracic pressure signs, were very valuable points in the diagnosis of growth rather than aneurysm. The nature of enlargement of the cervical glands could not be ascertained owing to the limitation of permission for the autopsy to the thorax; but it was difficult to disallow this glandular affection some value in arriving at a diagnosis of intra-thoracic growth.—*Medical Chronicle*, April, 1901.

## DISEASES OF THE ORGANS OF DIGESTION.

## 52.—ORAL SEPSIS.

By WILLIAM HUNTER, M.D., F.R.C.P.,  
Joint Lecturer on Practical Medicine and Pathological Curator,  
Charing Cross Hospital; Senior Assistant Physician,  
the London Fever Hospital.

[From Dr. Hunter's paper. See also page 154.]

(1) The condition of mouth associated with the presence of decayed teeth and rotten fangs is not simply a want of teeth, but is a condition of profound sepsis; and that, too, irrespective altogether of any pain or discomfort they may have from time to time caused, or even of the entire absence of such pain. (2) The sepsis, moreover, is one differing from ordinary surgical sepsis, inasmuch as all the pus organisms are continuously being swallowed, probably over a period of many years. (3) Further, it is a sepsis connected with a diseased bone (*i.e.*, tooth), than which there is no more virulent form. (4) While the gastric juice has fortunately a great capacity for killing organisms, this capacity is not complete, even in health, in the intervals between food when the acidity of the juice is at a minimum. (5) The continuous influx of pus organisms from diseased teeth and gums must be a source of disturbance to the mucosa, causing catarrh and diminished gastric secretion. (6) When we have diminished acidity of gastric juice with increased influx of organisms, we have two conditions—diminished resisting power and increase of dose—which all pathological knowledge shows to be the two chief conditions underlying infection. (7) Consequently the gastric catarrh becomes really a septic catarrh due to invasion of the mucosa with septic organisms. (8) Further, apart altogether from its gastric effects, a continued production of pus in the mouth must be a source of danger in other ways. (9) The mere septic absorption from such teeth and gums must be very considerable, lasting as it does over many years. (10) The sallow look and languid feelings of which he complains, and which he and his doctor agree in referring to his chronic indigestion, are really the expression of this septic absorption. (11) If pus organisms are constantly being swallowed, there is a risk of their infecting the tonsil over which they must pass, and hence tonsillitic, pharyngeal, and Eustachian tube infection may from time to time occur. (12) Even apart from such local effects, there must always be a



certain risk connected with the absorption into the blood of such organisms from fungating gums around diseased teeth ; and, if other conditions are favourable, there may be infection from the blood—*e.g.*, ulcerative endocarditis, empyemata, meningitis, osteomyelitis, &c. (13) In short, while every care has been and is being taken in increasing degree to protect him from notorious disease-producing organisms such as typhoid or tubercle bacilli, whether in the air<sup>a</sup> he breathes, the food he takes, the water he drinks ; and the utmost care is even taken by habits of cleanliness or stringent surgical precautions to protect any introduction of ordinary septic organisms by the skin—the mouth alone is disregarded, and he is left with a permanent condition of sepsis which, did it exist in any other part of the body, would at once receive immediate attention.

*Treatment.*—What I wish to emphasise is, that it is not the stomatitis, or the dental caries, or the absence of teeth, or any disturbance of nutrition in connection with defective teeth that causes all these effects. The condition in one and all is that of sepsis (I mean what is understood in surgery by sepsis) ; that is to say, we are dealing with pus-forming organisms which are constantly present in the mouth in connection with necrosed teeth. What I think wants fuller recognition on the part of all—physicians, surgeons, dental surgeons, and patients—is the septic nature of this condition of caries of the mouth. The gastric trouble is not the result of any dyspeptic trouble, or of ill-health, or of insufficient mastication ; but is the result of sepsis caused by the carious teeth. The matter, however, is important, not only from the point of view of the gastric trouble, but of the infections in the body generally caused by pathogenic organisms ; locally—acute and chronic tonsillitis, pharyngitis, otitis, follicular abscesses, glandular swellings in the neck in connection with diseased teeth ; or more remotely—ulcerative endocarditis, meningitis, obscure septicæmia complicated by purpuric hemorrhages, pyæmia, osteomyelitis ; in fact, the whole series of conditions caused by pus organisms. The chief problem with regard to these conditions is to find out where the pus organisms have gained entrance. These organisms are not ubiquitous, but are definite organisms causing pus formations. We take most elaborate precautions to ensure ourselves against typhoid infection, either from drains or from water ; and we take great precautions to protect ourselves from tubercle ; and there is no reason why, when we are doing all this, we should allow the most accessible part of the body to remain a favourable seat, not only for the propagation, but for the actual production of them. Therefore, I consider that in regard to oral sepsis there is a wide field open for preventive medicine by the practice of oral antisepsis.

When I say oral antisepsis, I do not mean any general application of mild astringents or antiseptic washes. I mean—(1) The direct treatment of each lesion in connection with a diseased tooth by strong antiseptic solutions: carbolic acid (1 in 20 or 1 in 40) rubbed in by means of a camel's hair brush or a piece of cotton-wool directly over the diseased root. This treatment should be periodically applied to each diseased tooth, as long as the patient delays having the tooth removed or as long as there is the slightest sign of redness around the root. A teaspoonful of 1 in 20 carbolic acid in half a tumbler of water forms an agreeable mouth wash. (2) Still better, it can be done by removing all diseased stumps and roots, in particular those lying underneath any tooth plate. (3) There is a necessity for recognition on the part of the dental surgeon that the conditions he deals with are in all cases septic; he must not be simply content to supply his patient with tooth plates. The patient will have to be educated, and shown that these plates are the cause of septic trouble unless they are daily sterilised. (4) There must be an entire avoidance of any dental apparatus (liable to become septic) which cannot be removed, and therefore which cannot be kept aseptic.

Oral antisepsis thus carried out is a field of preventive medicine which I think can be worked in with the most extraordinary success by the doctor, the surgeon, the dental surgeon, and the patient.—*Practitioner*, December, 1900.

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### 53.—COATED TONGUES.

By Dr. A. LOCKHART GILLESPIE.

Not so many years ago, one of the chief signs, if not actually *the* chief, of diagnostic importance was afforded by the state of the tongue, and many were the different discriminated conditions. Nowadays, perhaps, too little regard is paid to the epithelial activity of the lingual mucous membrane; an example of pendular swing; but there can hardly be any doubt that the appearances presented by the dorsal surface of the tongue are of minor value for diagnosis; seldom pathognomonic, although frequently of corroborative assistance. Müller (*München. med. Wchnschr.*, August 14, 1900), however, regards the subject from a higher standpoint than that last mentioned, in this according with the general ideas of the public on the question. Authorities differ as to the nature of the process which results in production of a coated tongue; some hold it to be of inflammatory origin, a glossitis; others to be caused by defective removal of



epithelial cells, and entanglement of food-particles in the excessive covering. Again, many opine that no intimate connection obtains between conditions of the stomach and states of the tongue; many, that they run parallel. Müller first refers to the results of examination of the tongue in 500 healthy young and middle-aged persons by Fuchs. He found that only in 38 per cent. was the tongue absolutely "clean"; in 21 per cent. was there a well-marked fur; in 22 per cent. a moderate coating; in 19 per cent. a slight covering. The author obtained very different figures from the examination of 120 old people in health—from 60 to 80 years of age—only 4 per cent. of these showed marked, 11 per cent. moderate, and 18 per cent. slight coatings; in 67 per cent. there was none. He attributes this apparently paradoxical result to the comparative atrophy of the filiform papillæ in elderly subjects; the filaments of which in earlier years play a large part in hindering the removal of cast-off cells, and detaining food-particles mixed with them from the dorsal surface of the tongue.

In 2,170 cases of disease the tongue was found to be coated, as shown in the following table:—

I Stomach diseases—				Per cent.
(a)	Acute gastritis	...	...	<i>82</i>
(b)	Chronic gastritis	...	...	<i>55</i>
(c)	Ulcer	...	...	<i>69</i>
(d)	Cancer	...	...	<i>65</i>
(e)	Nervous dyspepsia	...	...	<i>68</i>
II.	Diphtheria	...	...	<i>80</i>
III.	Typhoid	...	...	<i>82</i>
IV.	Scarlet Fever	...	...	<i>78</i>
V.	Lobar Pneumonia	...	...	<i>87</i>
Total stomach cases				69

The percentages in the acute diseases are italicised, and all of them stand considerably above those for the more chronic cases, whether the digestive tract is primarily affected or not. The proportion of "dirty tongues" met with in among 200 sufferers from chronic gastritis is, in fact, below that for healthy individuals in youth or of middle age. Microscopic examination of the "furred coatings" yielded evidence that in cancer of the stomach and pulmonary phthisis the number of leucocytes present is invariably excessive. Other factors, papillary filaments, epithelial cells, bacteria, moulds, and food-stuffs, varied so widely in the amounts found that nothing of value could be drawn from them. From the data obtained, Müller concludes—(1) Mechanical cleansing of the lingual surface is of great moment. Whenever loss of appetite leads to diminished intake of food, and consequently lessened removal of débris from the tongue by reason of its passage and attrition; or when the condition of the patient induces him to use his tongue little for any purpose, fur collects, and requires mechanical

help for removal. (2) In another class of diseases the coating is due to a true desquamative catarrh, in which the micro-organisms of the mouth play a leading part. (3) The "dirtiest" tongues are to be most frequently found in those persons who possess longer *papillæ filiformes* than normal. Further, in pathological forms, scrapings from the furred surface of the tongue, masses of epithelial cells are much more abundant than in health. If this sign is present, the fur denotes no primary disease of the tongue, but some affection connected with dyspepsia, especially acute in character, or following upon hyperæmia and catarrh of the buccal cavity. The disappearance of a tongue-coating accompanying an acute disease points to a favourable prognosis; in chronic debilitating disorders, the reverse.

Concerning treatment, the author sagely remarks that healthy individuals will naturally jib at a constant matitutinal scraping of the tongue; adding that such a procedure might well favour increased production of the coating. The most rational and the best plan of ridding the tongue of fur is by the thorough mastication of solid foods. In pathological conditions a soft toothbrush forms the best agent for the removal of the accumulated material.—*Edinburgh Medical Journal*, January, 1901.

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#### 54.—TREATMENT OF ACUTE PHARYNGITIS.

[A leading article in *Pediatrics*:]

By pharyngitis is here taken to mean any non-diphtheritic inflammation of the pharynx proper, or of the uvula or tonsils. For therapeutic consideration these structures are one, the mucous membrane being histologically almost the same over the tract mentioned.

The treatment is local and general; locally the object is reduction of the swelling and congestion, relief of the pain, and prevention of complications (otitis media, abscess of the tonsil, suppurating cervical glands, pyæmia, &c.). General treatment should aim to sustain the strength of the patient and eliminate the toxins. In the local treatment the remedies that do harm are numerous. It is safe to say that in the early stages of acute pharyngitis any astringent, however mild, is contraindicated. The physician should not content himself with the statements of many text-books as to the tincture of chloride of iron. Some of the most formidable cases of acute pharyngitis the writer ever saw were due to the thoughtless prescription of ferric chloride. One young man, recently under observation, had great exterior



swelling of the neck, enormous œdema, and congestion of the entire oropharynx, intense pain, high fever, complete anorexia, a generally alarming condition. A physician, he said, had given him a "bottle" some days before, which he had continued to use according to directions, till he found he was growing worse. The "bottle" was found to contain almost pure tincture of iron. This drug is a "favourite prescription" of the pharmacist over the counter, and he usually administers it with little dilution. The writer saw an unfortunate Negro girl on the East Side not long ago who had a large abscess of the tonsil from continuing to take a strong preparation of ferric chloride. Some one of her own colour, claiming to be a doctor, had given her what looked to be the pure tincture, a teaspoonful every three hours. If the physician still clings to his old iron habit, let him try tincture of the chloride on his own throat when it is acutely sore, and see how it feels. In the long run, particularly with patients one has not seen before, a safe rule is, use no astringent during the first five days. Should the tissues then seem boggy and the circulation sluggish, apply 20 per cent. silver nitrate on a swab, wash it off with salt solution, and see what the effect is later on. In no early case, at all events, should an astringent ever be put into the hands of the patient with directions to use "ever so many hours."

The early local treatment should be simply detergent and antiseptic. In babies, with whom pharyngitis is not so rare as some text-books state, a weak solution of sodium bicarbonate and salt may be given to drink rather freely, with a purge and proper attention to diet. In children old enough to gargle properly, salt, soda, and boric acid gargles do pretty well; but with these, as with older patients, the best way of cleansing the pharynx is the douche. Let the patient hang his head over the edge of the bed or of a table and receive the warm solution into his wide-open mouth in a gentle stream from a fountain syringe. This should be done from two to eight times a day, or oftener, according to the conditions. The most threatening cases will often resolve under this treatment with astonishing speed. The outflow from the mouth may be caught in a pus-basin or any convenient vessel; it should be afterwards disinfected with chloride of lime.

The general treatment should be sustaining. "Specifics" are worthless. In streptococcus and staphylococcus throats the general condition is one of simple sepsis, nothing more or less. The infection is often severe, the temperature often running to 105 deg. and 106 deg. F. It is accompanied by irregular chills and sweats, and often disappearing for twenty to twenty-four hours, and may reappear and run rather high for a day or so longer. This need not occasion special alarm if the other

organs are known to be in good condition. Acute pharyngitis is often capable of enlarging the spleen and causing albuminuria—the former especially in children. The possible renal irritation should be borne in mind, and no food allowed that may overburden the kidneys. A milk diet with suitable stimulation is usually indicated. For the fever, cold baths, or the cold pack, or cold effusions may be employed, not so much for their effect in reducing temperature as for their stimulating influence on the nervous system. As to prophylaxis, all cases of acute pharyngitis should be considered potentially contagious and isolated accordingly. This rule becomes the more imperative when we remember that acute angina is the symptomatic forerunner of many of the acute infectious diseases.

It would transcend too far the limits of an editorial to touch upon the treatment of the complications we have mentioned. They may, in a great number of cases, be entirely escaped by an intelligent prophylaxis.—*Pediatrics*, December 15, 1900.

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## 55.—THE PHYSICAL EXAMINATION OF THE STOMACH.

By MARK I. KNAPP, M.D.,

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Department of Diseases of the Stomach.

[From Dr. Knapp's paper :]

Riegel advises two methods for palpation : The first for the purpose of acquainting one's self generally with the size and position of the stomach ; the second one to diagnosticate localised areas. For the first method Riegel advises laying the slightly curved hand on the abdomen, the ulnar side of the hand turned downward and adapting itself to the surface of the abdominal wall. It is moved from above downward in a stroking manner. After some endeavours we may be able thus to feel the ventricular walls, especially in cases of gastrectasy and atony. This method, Riegel admits, cannot be executed when the stomach is absolutely empty, but it must always be filled to some extent by gases or ingesta. After trying this first method, we proceed with the second, using our finger tips, somewhat perpendicularly to the abdomen. In this way localised areas can better be felt.

Before proceeding with palpation for tumours, we must bear in mind the occupation of the patient, as this quite often has a decided bearing on the development of the abdominal,



especially the recti, muscles. Either one or both these last-mentioned muscles may, by occupation, be hypertrophied or only parts of the muscle, between two of the transverse tendinous lines that cross the recti abdominis. Evacuation of the patient's bowels before examining him will always be of use, as accumulated fæcal matters will simulate tumours. Not so easy, if at all possible, is the diagnosis of "passive fat tumours." By this expression Senator means that isolated pieces of fat remain, while general atrophy of the fat of the body occurs. Such passive fat tumours do occur, and their diagnosis is difficult, if not impossible. Temporary "gas tumours" are freely movable tumours, sometimes felt in the region of the stomach, when the intestines lie in front of the stomach, and they are produced by the spastic contraction of the circumference of the intestine at two points, apart from each other. They include air or gas.

The bore of every novice in palpation is "aneurysm of the abdominal aorta." He feels the pulsating abdominal aorta, which is covered by the tissues overlying it. These overlying structures naturally increase the thickness over the aorta, so that the covering is forgotten and everything taken as one pulsating mass, which is diagnosticated as aneurysm of the abdominal aorta.

Having diagnosticated a tumour, the following questions arise : What is the consistence of the tumour, what is its size? Is it unilocular, is it multilocular? Is it freely movable, or is it partially or entirely adherent to the circumjacent structures? Where is the tumour situated? Is the pylorus, as is by far most frequently the case, the seat of the neoplasm, or is it the lesser curvature, which comes next in frequency, or the anterior or the posterior walls of the stomach, or is the tumour *ad cardiam*? A tumour *ad cardiam* can sometimes be felt, but, if it is not of sufficient size, the characteristic history pointing to a tumour of the cardia must be confirmed by the œsophageal sound. If a tumour is felt, and the question arises as to whether that tumour is on the anterior wall or the posterior, then such question may be decided by examining the stomach both empty and filled. If the tumour is felt best when the stomach is empty, the diagnosis of tumour of the posterior wall will be a proper one. If, however, the tumour is best felt when the stomach is filled, then we have to deal with a tumour of the anterior wall. It is just here in trying to locate a tumour and ascertain its motility that the patient is put in different postures. The knee-elbow position is very well adapted for the diagnosis of tumours of the anterior wall of the stomach.

There are two more methods for the physical examination of the stomach. The one is distension of the stomach by carbon

bioxide or air, and the other is transillumination of the stomach, gastrodiaphany. The purpose of either of these is to supplement or to corroborate the other methods of physical examination, to define the position and the size of the stomach, especially when a diagnosis between dilatation and ptosis is to be made. The inflation of the stomach will also show the condition known as the hour-glass contraction of the stomach. If a tumour is felt, the distension of the stomach by air or gas will show whether the tumour belongs to the stomach or to another organ, as the tumour will change its position with the changed condition of the inflated stomach. If a tumour belongs to the posterior wall of the stomach, the distension will cause such tumour to disappear under the touch.

When gas generation in the stomach is used, three quarters of a teaspoonful of the tartaric acid is first given in water, and immediately after a teaspoonful of the bicarbonate of sodium, also in water. This method has this merit: We need not introduce the tube into the stomach, a fact which must not be underrated. Especially is this method of value when there is a tumour *ad cardiam* and the tube cannot be introduced for the purpose of inflating the stomach. The drawback to the use of this artificial gas production within the stomach is that we can never fully know how much gas we are to produce, and any over-distension of the stomach may give rise to distressing—nay, even alarming—symptoms. Nevertheless, neither Riegel nor other authorities have met with any accidents in the constant use of this method. It is different with the introduction of air into the stomach, first employed by Runeberg. This is done by introducing the ordinary stomach-tube into the stomach and connecting the proximal end of the tube with a double rubber bulb. This method has the advantage that the degree of the distension of the stomach is always at our command, and the patient can instantly be relieved from any over-distension by simply disconnecting the rubber bulb and allowing the air to escape, helping by pressure upon the stomach. The volume of air in the stomach in this method can be regulated at will. The disadvantage of this method is the fact that we have to insert an instrument into the stomach. This is the method now used by Ewald, and, while it has always proved successful, it has never given rise to any alarming symptoms. It certainly is the method to be recommended if we find no objection to the tube, and if the tube has a free passage into the stomach. By the detension of the stomach we are well able to see its contour, as the entire organ becomes prominent.—*New York Medical Journal*, March 23, 1901.



## 56.—GASTRIC ULCER.

By D. D. STEWART, M.D.,

Physician to the Episcopal Hospital of Philadelphia, &amp;c.

[The following is taken from Dr. Stewart's remarks on pain and hæmatemesis respectively :]

Pain may not occur at once succeeding the ingestion of food. Commonly it appears within a few minutes and increases in severity throughout the gastric digestive phase until the stomach empties itself into the bowel, or is emptied by emesis or by the use of the tube. Exceptionally pain may not be aggravated for an hour or two after taking food, but when this is the case the suspicion should be entertained that the ulcer may be in the first part of the duodenum rather than in the stomach. Posture often has a marked influence on the time of appearance and the duration and severity of pain. It has been suggested by this fact an idea of the situation of the ulcer may be ascertained. Relief, it is believed, can be afforded by removal of the contents of the stomach from the ulcer—the pain in ulcer situated near the pylorus being lessened by decubitus to the left ; that of ulcer on the posterior wall by the prone position, &c. In ulcer, however, of any situation, save that toward the posterior wall, it is a matter of common observation that pain is usually less intense when the patient is in recumbency in dorsal decubitus. The erect posture and active exercise will generally greatly aggravate pain.

The pain is commonly both localised and lancinating. The localised pain is apt to be present in a limited, small area in both the epigastric and dorsal regions. The epigastric site of pain is often local, and is situated at a point immediately below, or not more than an inch or so below, the tip of the ensiform process, in an area which may be covered by a twenty-five cent or a dollar silver piece. Its area is often of greater extent, and may be the size of the palm of the hand or even larger. In this situation both spontaneous and provoked pain is more or less constant. Exquisite tenderness is apt to be present here to even light pressure, and deeper pressure, however gently applied, cannot be borne. In gastroptosis this localised area of exquisite tenderness may be, but is not usually, much lower than that cited. The dorsal fixed pain and tenderness is commonly placed immediately to the left of the eleventh and twelfth dorsal, or the first lumbar, vertebræ, and occupies an area about the extent of that described occurring in the epigastrium. Less often, but not uncommonly, the dorsal area

of more or less fixed pain is on the right instead of the left, or may occupy both situations. Here, too, the pain is aggravated by even light pressure, but not to the same extent as it is in the epigastric pain. From these two situations, or from the epigastric centre alone, should dorsal localised pain not be markedly present, the pain lancinates with paroxysmal exacerbations, induced or aggravated by the ingestion of food or drink. Often radiation occurs over the whole epigastrium and perhaps both hypochondria, through into the dorsal region, and it may be along nearly the whole spine and adjacent dorsum. The pain is usually of pronounced burning character, and is often at times paroxysmally unbearable. Radiation may occur through related sensitive nerves from the affected gastric filaments into those supplying other viscera and parts, and attacks simulating those of angina pectoris, with neuralgic pains in the left arm, may occur.

Pronounced hyperæsthesia of the skin and subcutaneous tissues may accompany the epigastric, chest, upper abdominal, and dorsal pains. This is apt to be more evident on the left than on the right side. The pain may be reflected into branches of the vagus, and induce spells of dyspnœa. Extension may also occur into unusual paths, such as a branch of the phrenic. Such unusual persistent extensions of pain may indicate the formation of adhesions between the ulcer and an adjacent part. Adhesions to the liver may cause pain in the right shoulder. The fixed pain is, as remarked, nearly always aggravated by pressure, however gently applied. So, too, pressure by the clothing is apt to much aggravate discomfort and pain. Women, as a rule, find they can no longer comfortably wear the corset. In so-called latent cases, and in a fair number of cases in which fixed pain is more or less constant, it may not be intensified by taking food or drink. In a small minority it may be then even less evident. Other symptoms are then necessary to establish the diagnosis, such as gastric hemorrhage.

*Hemorrhage.*—The fæces should always be carefully and systematically inspected, and further examined, both microscopically and chemically, if of suspicious appearance, in a case in which gastric or duodenal ulcer seems probable or possible. It should be remembered that small quantities of blood that have undergone the process of digestion may not very perceptibly blacken the fæces. With a hemorrhage of small quantity the fæces may be merely of a chocolate colour, suggesting an increase in the colouring matter of the bile. A larger hemorrhage tends to blacken the the fæces; and a hemorrhage of some size, especially if duodenal, or if the blood be rapidly passed from the stomach into the bowel and thence on, through the increased peristalsis sometimes so excited may



make its appearance as characteristic little altered coagula. The fæces containing blood from the stomach or upper bowel, which has had the usual time in transit, is apt to be of a very foetid odour. Preparations of bismuth, of iron, or of tannic acid should not be administered in a case in which it is desired to examine the stools for the presence of altered blood. The occurrence of hemorrhage of any size causes the characteristic signs of shock. These may exist without the blood being vomited, and death may ensue rapidly from concealed bleeding. This, however, is very unusual.—*Therapeutic Gazette*, April 15, 1901.

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### 57.—ACHLORHYDRIA: ITS EFFECTS AND THEIR TREATMENT.

By H. F. HEWES, M.D., Boston.

Of 250 cases of disorder of the stomach which I have treated during the last few years, the condition of achlorhydria was present as a constant condition investigated by several analyses at considerable periods of time in 15. Of these cases six were cases of simple chronic gastritis, four cases of gastritis with carcinoma of the stomach, one of achylia gastrica, three cases in which the achlorhydria was the only abnormal objective sign.

The importance of the recognition of this condition arises from the fact that it may itself, regardless of the nature of the organic lesion of the body with which it may be associated, be a cause of special definite disturbances in the process of digestion, and thus a special treatment directed to remedying its effects is necessary in cases where it exists. The results of this absence of hydrochloric acid in the stomach are (1) an absence of peptic digestion, (2) an increase of bacterial fermentation in the stomach and intestine.

Where the motility of the stomach is undisturbed, as is not infrequently the case with achlorhydria, the absence of peptic digestion is of little or no effect upon the organism, since the intestine can perform this function of proteid digestion. Our first aim in the treatment of this condition is, therefore, the preservation or adjustment of the motor function of the stomach. The proteid diet must be in such a form and given in such a manner that it can be easily passed through the stomach, the starches with the cellulose envelope broken so that salivary digestion may occur freely in the stomach. In some of my cases the achlorhydria has existed for years, and it is only when the motility of the stomach becomes affected that the patients have symptoms of stomach trouble and come for treatment. A proper

regulation of the diet, with a regimen of rest after meals, and regular out-of-door exercise and exercise of the abdominal muscles, with strychnia or hydrochloric acid and strychnia given internally, soon causes in these, as well as in the more numerous cases of hypochlorhydria, a relief of symptoms, and presumably a readjustment of function.

The device of supplying the hydrochloric acid for peptic digestion by administration of the artificial acid, often useful in cases of hypochlorhydria where the deficiency of acid is slight, cannot be utilised with success in achlorhydria, as it would be necessary to use excessive amounts of the acid—a quart of dilute hydrochloric acid, for instance, with a meal.

That an abnormal fermentation occurs when the stomach contents lack their normal antiseptic, the hydrochloric acid, has been definitely proven by Dubarry, Bunge, Simon, and others. This causes little or no effect in the stomach or intestines where the motility is normal, although the quantity of bacteria or fermentative products which are passed into the intestines, and the fermentation which occurs there are increased over normal even in these cases. (*Vide* Simon's "Researches upon the Conjugate Sulphates of the Urine in cases of Hypochlorhydria.")

In cases where motility is affected a considerable amount of fermentative products is formed, causing frequent disturbance of both stomach and intestines. In these cases marked symptoms of intoxication and of intestinal sepsis, as drowsiness, urticaria (?), intestinal flatulency, diarrhœa, may occur. The treatment of this second result is, therefore, like that of the first, primarily the adjustment of the motility of the stomach. Where this function is intact antiseptics destined to act in the stomach (salicylic acid, resorcin, or large quantities of HCl given frequently throughout digestion) or in the intestine (salol) may be useful in limiting fermentation. In cases where intestinal sepsis is suggested by symptoms the antiseptic treatment must be applied, and foods which do not easily undergo fermentation must be given.

The presence of achlorhydria can be determined by a simple method of analysis of the contents. A qualitative test for free HCl determines whether or not we are dealing with a marked condition of hypochlorhydria. A further qualitative test of the contents for the presence of combined HCl<sup>2</sup> determines whether we are dealing with a simple diminution of HCl (hypochlorhydria) or a total absence (achlorhydria).

The diagnosis of achlorhydria can be made therefore only by analyses of the gastric contents. And these analyses should be made at various periods of digestion and upon several occasions extending over a considerable period of time. Once diagnosed, the treatment of the results of the condition is very satisfactory. —*Boston Medical and Surgical Journal*, November 1, 1900.



## 58.—ENTEROPTOSIS.

By MAX EINHORN, M.D., New York,

Professor of Medicine at the New York Post-Graduate Medical School and Hospital.

[From Dr. Max Einhorn's paper :]

I am in favour of the word enteroptosis as originally outlined by Glénard. This will then include a descent of several organs of the abdominal cavity (stomach and colon, one or both kidneys, and occasionally the liver, spleen, &c.). It thus signifies a general tendency for the abdominal organs to prolapse. While, however, I am perfectly in accord with Glénard in regard to the use of the term enteroptosis in its anatomical sense, I think that, clinically, this well-known writer ascribes too many ailments to this condition. Enteroptosis may exist without giving rise to any symptoms whatever, and again enteroptosis may be accompanied by all kinds of gastric and intestinal affections.

*Diagnosis.*—The diagnosis of enteroptosis is quite easy. It is only necessary to think of this condition, and it is not likely to escape detection. The subjective symptoms, in conjunction with the result of a thorough examination of the abdomen by the usual physical methods, will reveal the presence of enteroptosis. Another auxiliary in diagnosis of this condition is the so-called Glénard's "belt test." The physician, standing behind the patient, encircles the lower part of the abdomen of the latter with both his hands, at the same time supporting and partly lifting it. The patient is now asked if this procedure gives him relief. If so, it speaks in favour of the presence of enteroptosis.

*Prognosis.*—The prognosis of enteroptosis is good. When appropriate treatment is instituted, an amelioration in the condition of the patient quickly takes place. Whether a full *restitutio ad integrum* can take place is not yet definitely settled. With regard to this point it is interesting to note that, as early as 1883, Henderson reported a perfect cure in a patient with moveable kidney within the short period of two and a half months. His remarks are very appropriate even now: "Nowadays, when the surgeon boldly invades the great cavities of the body—clearing out tubercular vomicae, freeing an impacted gall duct, stitching a displaced kidney to the lumbar muscles, and in other ways threatening the position of the physician in his own domain—it behoves the latter, in friendly rivalry, as well as for the general good, to show that his art does not end with the diagnosis of abnormal conditions, but also extends to their successful removal." From my own

experience I would say that a perfect cure of enteroptosis is possible. I know of positive cures—that is to say, the stomach has returned to its normal position, and a moveable kidney has disappeared—in more than a dozen cases of my own.

*Treatment.*—The principal part in the treatment of these cases consists in the application of a well-fitting abdominal supporter, ample nutrition, and exercise. The bandage should support and partly lift the lower part of the abdomen. It is immaterial what kind of a bandage is used if it only fulfils this purpose. The bandage should be provided with windows over the iliac crests, also with straps at the thighs, which prevent its slipping up. Special pads for a moveable kidney or a floating liver are, according to my opinion, of no value. A. Rose recommended the use of adhesive plaster over the lower part of the abdomen instead of the bandage. In some instances this procedure may be tried. Ample nutrition is certainly important, perhaps more so than the bandage. This must be effected by all means. The diet may, in instances in which the condition of the gastric secretion is known, be adapted more or less to it. But this is not so essential as the knowledge that we should make our patients eat more than is absolutely necessary for the maintenance of the balance of the body. As a rule, frequent meals, plenty of bread and butter, good, plain food, with no very indigestible substances, are indicated. I usually have the patients take milk and bread and butter between meals. In this regard I differ somewhat from Glénard, who is of the opinion that milk is especially harmful in this class of patients. Exercise is another important factor in strengthening the constitution generally, and the abdominal muscles particularly. Out-door sports seem to be especially adapted for this purpose. Massage has also been warmly recommended. According to my opinion, however, this is of value only in cases with mild enteroptosis, but not in greatly anæmic patients, or in the advanced cases, for it often creates too much irritation, and may even give rise to inflammatory processes in the abdominal cavity, especially if vigorously executed. Electricity seems to be especially adapted, when administered intragastrically, to cases in which there are manifold functional disturbances of the stomach. Of medicaments, iron and arsenic are often indicated in anæmic conditions, while the bromides may be given to allay great nervousness. All the digestive disturbances should be managed according to the general rules. This applies also to the constipation which is so frequently found in enteroptosis. Too many laxatives, however, should not be given, nor is there any need of a laxative treatment in cases in which regular movements are present.—*Medical Record*, April 13, 1901.



## 59.—SUBPHRENIC ABSCESS AND PLEURISY IN APPENDICITIS.

[[From Dr. Fisher's interesting summary in the *Bristol Medico-Chirurgical Journal*.:]

Dr. Baldwin (*Medical News*, 1900, lxxvii. 53) states that he has found records of 43 cases of subphrenic abscess following appendicitis, a large number of which were discovered in the post-mortem room. It is interesting to note that in Dr. Baldwin's cases apparently there was no abscess around the appendix which communicated directly with the abscess below the diaphragm. I have seen two cases in which a channel of pus extended from the region of the appendix along the outer side of the ascending colon upwards to the liver, where it expanded into a subphrenic abscess. Such cases are, however, of much less interest than those in which no such direct connection with the appendix exists. The existence of the isolated abscess can, however, be explained on physiological and anatomical grounds. The peritoneal currents run upwards, and it can readily be seen that microbes washed from the appendix to the upper surface of the liver may be delayed in their exit from the peritoneal cavity. Multiplying in their new position, they set up another focus of inflammation, which may result in suppuration, and, if adhesions be formed between the great omentum and abdominal wall, in a localised subphrenic abscess.

There is one other way in which a subphrenic abscess, secondary to appendicitis, may arise. That is through the medium of an abscess of the liver. In such a case it is needless to say the micro-organisms are carried to the liver by the blood. Dr. Baldwin refers to the possible existence of an abscess of the liver. I have seen such a case. An abscess, the size of an orange, opened on the upper surface of the liver, set up a subphrenic abscess, and, finally, general suppurative peritonitis. Death took place about a year after an attack of appendicitis, which was, without doubt, the cause of the hepatic abscess. Dr. Baldwin has seen such an abscess perforate the diaphragm, and discharge itself through the bronchial tubes of the right lung, with recovery of the patient. Perforation of the diaphragm is probably rare, but the spread of inflammation through the diaphragm is, no doubt, very common. In the great majority of cases of subphrenic abscess, due to various causes, the pleura on the side of the abscess becomes involved, and the variety which follows appendicitis is not likely to be an exception to the rule. And, apparently, in some cases the pleural effusion may be so extensive, and the amount of pus below the diaphragm so slight, that the condition of the chest is

the most prominent feature of the illness. M. Dieulafoy has written a paper upon this subject, and describes the condition as "*pleurésie appendiculaire*." (*Bull. Acad. de Méd.*, 1900, p. 438.) Two cases are described which came under his own observation, and others are referred to recorded by several writers. Usually the pleural effusion is said to be large in amount and offensive, and in some cases a tympanitic note at the upper part of the chest may show the presence of gas; in other words, there may be a pyo-pneumothrax. It is scarcely necessary to add that the effusion is on the right side of the chest. Even where a subphrenic abscess has been present, Dr. Baldwin remarks that the presence of symptoms and physical signs pointing to the chest has led to the suppuration below the diaphragm being overlooked during life; its presence having been only discovered at the autopsy.

Dieulafoy has described pleural effusion following appendicitis as "*pleurésie appendiculaire*," and the name implies that the pleurisy is a complication of appendicitis, but *pneumonie à forme appendiculaire* is a name given to pneumonia when the symptoms resemble those of appendicitis. In a recent article upon this subject (*Semaine Méd.*, January 9, 1901), Morris, Mirande, and Hutinel are mentioned as having described cases. The disease is said to commence with the classic symptoms of appendicitis, which last three or four days. There is repeated shivering, with vomiting, and pain in the right iliac fossa. Cases have been operated upon, and the appendix found to be perfectly normal. Apparently not until the fourth day are there symptoms and physical signs which attract attention to the chest. Mistakes are said to be most likely to occur in children, but difficulty of diagnosis may also be present in adults. We are all aware how cases of familiar disease may sometimes prove to be difficult of recognition, yet one cannot help thinking that the mistake of diagnosing appendicitis where pneumonia exists must be in great measure due to the large place appendicitis occupies at the present time in the minds of the medical profession. Physical signs of lobar pneumonia in children are often very late in appearing, in fact one may say that it is the exception rather than the rule to find evidence of the presence of consolidation before the fourth day of the disease. Abdominal pain and vomiting also are not uncommon; but an abnormal rapidity of breathing, if looked for, generally correctly suggests to the observer the nature of the complaint, which will definitely manifest itself at a later date. Yet in the light of records of other cases referred to above, which show that inflammation of the pleura may accompany appendicitis, it is clear that one must be careful not to go to the other extreme and ignore symptoms that suggest trouble in the abdomen.—*Bristol Medico-Chirurgical Journal*, March, 1901.



60.—CARCINOMATOUS STRICTURE OF THE  
DUODENUM.

By H. D. ROLLESTON, M.D. Cantab., F.R.C.P. Lond.,  
Physician to, and Lecturer on Pathology at, St. George's  
Hospital.

[From Dr. Rolleston's lecture :]

Carcinoma of the duodenum is difficult to recognise during life, and presents a different clinical picture according as the growth is situated in the first, the second, or the third portion. It will therefore be most convenient to describe the three different forms.

(1) *Carcinoma of the first part of the duodenum* is rare ; in forty collected cases the first part was affected alone in eight, and together with the second part in five more. It is indeed remarkable that carcinoma of the pylorus does not extend into the duodenum more often than it does. Carcinoma of the first part of the duodenum has practically the same clinical picture as carcinoma of the pyloric end of the stomach, and as it is a rare disease, the commoner form will probably always be diagnosed in its place. It is, therefore, conveniently called "juxta-pyloric carcinoma of the duodenum" ; another name for it, since it is above the level of the biliary papilla, is "supra-ampullary carcinoma." It is interesting to note that, just as in the case of the stomach, so in the first part of the duodenum, carcinoma may develop on a former ulcer. Ulcer can hardly be an important factor in the causation of duodenal carcinoma, since duodenal ulcer is practically limited to the first part of the duodenum, and carcinoma in that situation is rare. Thus 123 out of 149 duodenal ulcers collected by Dreschfeld were in the first part of the duodenum. Again, from the frequency with which duodenal ulcer is latent during life, clinical evidence in favour of the previous existence of a simple ulcer is seldom forthcoming. It is, therefore, on the post-mortem observation that we have to depend, and it may be rather difficult to be sure whether there is wide ulceration and sloughing of a growth or the development of carcinoma in a pre-existing ulcer.

(2) *Carcinoma of the second part of the duodenum*.—This is the most frequent form of primary carcinoma of the duodenum. In forty collected cases the growth was limited to the second part in twenty-four, while in five others the first part was invaded as well. If it occurs in the upper part of the second portion of the duodenum—that is, above the level of the biliary papilla—it will give rise to much the same symptoms as carcinoma of the pylorus ; if, on the other hand, it involves the biliary papilla

the flow of bile will be interfered with and jaundice or other complications will occur; while if it is well below the biliary papilla it will by narrowing the lumen give rise to obstruction with bilious vomiting. Carcinoma has a special tendency to arise in the duodenal mucous membrane covering the biliary papilla. This must be differentiated from carcinoma arising inside the biliary papilla or in the ampulla of Vater, the channel common to the terminations of the common bile-duct, and Wirsung's duct of the pancreas. The term "carcinoma of the ampulla of Vater" is sometimes erroneously applied to a carcinoma of the duodenum involving the biliary papilla. When carcinoma arises on the duodenal surface of the biliary papilla the flow of bile is interfered with, though it is not, as a rule, completely blocked. A change that very frequently follows on this and may rapidly kill the patient is suppurative inflammation of the bile-ducts. The partial stagnation favours infection, and the growth, while not completely occluding the lumen of the papilla, favours duodenal catarrh and its extension into the common bile and pancreatic ducts. The duct of Wirsung may also become dilated. The biliary papilla is a favourite site for the development of carcinoma; possibly this is due to some foetal displacement or irregular inclusion of epithelial cells during the development of the hepatic diverticula from the primitive duodenum. It is interesting to note that the disturbance, incident on the outgrowth of the hepatic diverticula from the duodenum, may lead to a congenital narrowing or to atresia of the bowel at this point, analogous to congenital atresia of the oesophagus. An innocent papilloma is sometimes seen to arise from the duodenal surface of the biliary papilla, and it is, I think, probable that carcinoma may subsequently develop in such a growth. The question has been raised whether impacted gall-stones inside the ampulla of Vater have any bearing on the development of new growth on the duodenal surface of the papilla. On the face of it this seems improbable, and though D. K. Dickinson has recorded the association of these two conditions, this experience is most unique.

From its situation primary carcinoma of the intestinal mucous membrane of the biliary papilla is spoken of as juxta or peri-ampullary carcinoma. As a rule, peri-ampullary duodenal carcinoma imitates carcinoma of the head of the pancreas, and gives rise to jaundice associated with an enlarged gall-bladder. Jaundice was present in twenty-three out of twenty-five cases quoted by Mathieu. In rare instances, however, the growth, although involving the papilla or invading the bile-duct, does not give rise to jaundice. The jaundice may vary, be intermittent, or, as in the case under the care of Dr. Isambard Owen, disappear for a time; it thus differs from the permanent and



progressive jaundice seen in carcinoma involving the common bile-duct, the cavity of the ampulla Vateri, or the head of the pancreas. The intermittence or disappearance of jaundice in duodenal carcinoma involving the biliary papilla must depend on the growth ulcerating and thus no longer obstructing the flow of bile ; if the tumour goes on growing it may again lead to obstructive jaundice. Though the biliary papilla is a favourite starting point for carcinoma, the growth may begin elsewhere in the second part of the duodenum and involve it by extension.

(3) *Carcinoma of the third part of the duodenum* is the least frequent of all the three varieties. In forty collected cases (not including the present example) it was only found in three. It is sometimes spoken of as infra-ampullary or juxta-jejunal carcinoma of the duodenum. The symptoms are those of intermittent obstruction, with bile in the vomit. It thus resembles pyloric obstruction, except for the presence of bile and pancreatic juice in the vomit. The occurrence of bile should at once suggest carcinoma of the duodenum below the biliary papilla or a gastro-biliary fistula. In such a case the vomit should be tested for trypsin by seeing whether fibrin is digested in an alkaline solution. In this way the diagnosis between the two conditions might be made.—*Lancet*, April 20, 1901.

## 61.—CHOLECYSTITIS COMPLICATING TYPHOID FEVER.

By W. F. HAMILTON, M.D.,

Lecturer in Medicine, McGill University ; Assistant Physician to the Royal Victoria Hospital, Montreal.

[From Dr. Hamilton's paper. The details of the cases and some other parts are omitted:]

As compared with a few years ago, judging by available reports, this complication of typhoid fever is now being recognised with much greater frequency. About three years ago, Drs. Martin and Keenan reported a fatal case of cholelithiasis complicating typhoid fever. Since that time opportunity has been afforded us in the wards of the Royal Victoria Hospital of observing at least six cases, four of which are briefly sketched in these notes from the cases of typhoid fever treated this year.

Turning to a brief analysis of our cases, it may be said that the diagnosis of typhoid fever was undoubted, the Widal reaction having been obtained in each case, and the ordinary clinical

features in themselves were sufficiently clear in their indications to determine this diagnosis. Two were women and two were men. The ages of the men were 28 and 29 years, and the women were 35 and 67 years old. The time of onset of this complication was rather variable :—In Case 1, on the 17th day, in Case 2, on the 72nd day and ten days after a relapse. Cases 3 and 4 were on the 30th and 28th days respectively. The onset was marked by nausea and vomiting in three cases, while a severe rigor with recurrence and high temperature with vomiting indicated the gravity of the condition in Case 1. Pain was a prominent feature of each of the cases. It was referred to the epigastrium and right upper quadrant beneath the ribs. Jaundice was pronounced in Cases 1 and 3. It was slight in Case 2, while Case 4 showed but a tint of yellow. Bile was in the urine of three patients and was absent in a third. The stools of two patients were clay-coloured. Tumour was discovered definitely in all the cases. Let it be understood, however, that this question of gall bladder enlargement in two cases was settled only after most careful percussion and in one instance only after palpatory percussion was resorted to. In two cases the tumour was readily seen and felt.

In reviewing these cases we see that a decided and sudden change in the temperature curve without much change in the pulse, more or less nausea and vomiting, fairly well localised abdominal pain and tenderness, icterus and the development of a tumour in the right hypochondrium, compose the clinical picture. When presenting such features who could fail to decide that the gall bladder or bile ducts were involved? The diagnosis is not always, however, so readily made, and possibly, as Keen points out, many biliary complications may be wholly latent. In the cases herein narrated, it must be confessed that very little difficulty arose in deciding on the presence of cholecystitis. In Case 1, in the third week the onset was so sudden, the pain so severe, and prostration with sweating so marked, that at first intestinal perforation was suspected. In a few hours, however this view was dismissed for that which at first was also discussed, viz., that of cholecystitis. If one finds in the past history of a patient in whom such a complication has arisen, evidence of gall stone colic, the case is rendered clear. This history, however, was absent in all our cases. The diagnosis of the presence of stone can scarcely be made, yet we more reasonably suspect stone in those cases of recurrence of the attack of pains, and where the other symptoms and signs persist. Operation was deemed necessary in two of our cases where the signs were recurrent and persistent. These proved to be cases of cholelithiasis; the other cases subsided without operation. Where stone is present in a gall bladder one would recognise a



most favourable condition for a greater infection, and expect, too, the persistence of symptoms. This complication should always be regarded as a grave one. Mason, in his list of collected cases, shows a mortality of 25 per cent. Doubtless this figure is rather high, for we are not in a position to judge, the number of cases dealt with being as yet too small.—*Montreal Medical Journal*, December, 1900.

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## 62.—ACUTE YELLOW ATROPHY OF THE LIVER

By ARTHUR HALL, M.A., M.B., M.R.C.P.,  
Physician, Sheffield Royal Hospital.

[Dr. Hall gives the details of two cases, and appends the following remarks :]

*Case 1.*—The liver weighs 33 ounces. It seems to have fallen back, so that lower margin does not reach the lower costal margin ; soft and flabby, easily breaks down. Left lobe is particularly small, surface smooth ; on section brilliant orange yellow colour almost all over, with congested veins showing very prominently : the natural firmness of the organ entirely disappeared. The gall bladder contains very small quantity of greenish mucus and bile ; almost empty ; ducts perfectly clear.

Sections of the liver show a complete disorganisation of the hepatic structure, so that it is hard to recognise that it is liver. Some cells remain, swollen, granular, the nucleus not visible, whilst there are many fat globules and much broken-down *débris*. The interstitial and intercellular stroma remains, forming a skeleton in which the above lie, but by no means fill. Around the interlobular vessels there is an increase of fibrous tissue and some small cell infiltration. The interlobular bile ducts do not seem to be increased.

*Case 2.*—The liver weighs  $33\frac{1}{2}$  ounces ; chief amount of wasting is in left lobe. Gall bladder empty. Left lobe has a roughened, wrinkled appearance. Colour brown, at posterior part orange red patches. Right lobe brown or dark green round margins ; convex surface dark yellow with irregular purple markings of blood-vessels. The margin of yellow area distinctly felt. The yellow area extends on under surface of left lobe. The yellow ochre condition of liver is not uniform ; over the greater part of right lobe it occurs, but does not extend to the margin of the liver. The edge of it is fairly abrupt in places, whilst in other parts small yellow islets of tissue are scattered for a short distance in the red liver substance. This red liver substance is not normal, it is harder and more fibrous, and the capsule over it is wrinkled ; it contains very little blood. The microscopical examination showed increased quantity of interstitial tissue in the right lobe. Lobules quite distinct and shrunk, some consist of nothing but small

rounded mass of indistinct cells. In others rows of cells very widely separated. Fibrous tissue, not especially around interlobular vessels. Very noticeable is large number of biliary ducts in fibrous tissue, choked up with proliferated epithelial cells. Here and there small bile capillaries choked up with yellow secretion. Some of interlobular strands are really old lobules with great interstitial compression and degenerated cells. In the left lobe there is no lobular structure left at all, a mass of fibrous-looking material, with blood-vessels at intervals. Most noticeable feature is numerous groups of bile ducts, full of epithelium with some small-celled infiltration round them. Parts of fibrous structure consist of close meshwork of fibres containing remains of liver cells in meshes. Throughout both lobes scattered widely are rod-like bodies, either single or in chains, with square ends and varying largely in length.

*General remarks.*—There are several features in these two cases that call for notice, and which I propose to consider under the following headings :—*Sex, age, occupation.*—Case 1 : Woman, married, aged 28 ; not pregnant ; house work only. Case 2 : Man, single, aged 20 ; bricklayer. *Etiology.*—In neither case was there any apparent possibility of phosphorus poisoning from occupation, nor any history of fright or shock. They did not live near to one another, or ever know one another. *Date of onset.*—Both cases began during the second week of August, 1899. Inquiry has failed to show that any similar cases presented themselves in the city at that period. *Early symptoms.*—In both cases jaundice was the first thing noticed, together with some general malaise, but not sufficient to keep them indoors. Both cases were diagnosed at first as simple catarrhal jaundice, which diagnosis was at that period the only one possible. *General progress of disease.*—Case 1 : No further symptoms occurred to suggest more serious disease until twenty-four hours before death, when the patient became gradually comatose, with a raised temperature. There was no vomiting ; no delirium. Case 2 : The symptoms for some days prior to the beginning of the second stage were more severe, especially the vomiting, with occasional hemorrhage. The onset of the second stage was somewhat difficult to fix exactly, probably it was about four days before death. It was characterised by drowsiness, gradually passing into coma. There were severe vomiting and tremulousness. *Duration.*—Case 1 lasted altogether twenty-five days. Case 2 lasted altogether thirty-nine days. The duration in both cases is somewhat above the average, especially Case 2, but longer durations have been recorded. The brief duration of the second stage in the two cases is quite characteristic. *Hepatic dulness.*—In Case 1 the edge was noted as having been felt below the costal margin three days before death. After that it was not examined during life, but from its size and position post-mortem it was



evident that at the time of death the dulness must have been largely reduced. Case 2 : The condition of the liver was very carefully and repeatedly examined at short intervals during the whole course of the patient's illness. There was certainly no diminution in the area of dulness up to a week before death, and probably up to three or four days before death. It then rapidly disappeared. In both cases the liver weight was reduced to below 35 ounces. *Hemorrhages*.—In Case 1 they were absent. In Case 2 there was slight hæmatemesis and melaena. In both there were ecchymoses post-mortem. *Urine*.—In both cases after repeated examinations no trace of leucin or tyrosin was found. On the other hand, a fair quantity of urea was present even at the time of death. So that even with this considerable destruction of liver cells there was sufficient urea-forming tissue left to carry on a comparatively satisfactory metabolism. This absence of leucin and tyrosin in the urine is not uncommon in cases of acute yellow atrophy. Out of 57 cases collected by Hunter, a similar absence was noted in 16. *Bacteriology*.—In Case 1 no bacteriological examination could be made. In Case 2 the examination was made with very great care, and yet the only growth obtained was one of *B. proteus*, the early putrefactive organism of cadavera, which was also found in large numbers in the liver and heart.

*Conclusions*.—Acute yellow atrophy of the liver seems to be due to a toxin, formed, possibly, in the alimentary canal. As to the origin of the toxin or its nature, we have as yet no evidence. The likeness of the symptoms to those in other cases which are known to be due to toxic action, such as phosphorus poisoning, seems to suggest the similarity in origin. The jaundice is probably due to a catarrhal inflammation, and consequent obstruction of the smaller bile ducts, caused, possibly, by secretion of the irritating toxin, "toxæmic catarrh" (Hunter). What relation, if any, such cases bear to various cases of cirrhosis of the liver is unknown.

As regards treatment, the only indication seems to be to attempt to check the formation of toxin in the alimentary canal by "intestinal antiseptics," and to keep up the patient's strength. Unfortunately the diagnosis of acute yellow atrophy is not always possible until symptoms of the last stage have commenced, when any treatment would be useless. If, however, it should be possible to suspect the disease in its early stages, I should certainly suggest that attempts be made in such a direction. If they failed they would at any rate be comparatively harmless, and at present we know of no other way in which to combat the disease.—*Quarterly Medical Journal*, February, 1901.

## 63.—FÆCAL IMPACTION.

By DR. SAMUEL G. GANT.

The author (*Post-Graduate*, January), in a paper read before the New York Post-Graduate Clinical Society, said that of fæcal accumulations sixty per cent. would be found in the rectum, fifteen per cent in the sigmoid, ten per cent. in the cæcum, and the remainder in the other portions of the colon. Impaction occurred more frequently in women than in men, and the older the persons the more likely were they to suffer from this affection. No age was exempt, cases having been recorded from infancy to seventy years and more. This condition might properly be divided into acute and chronic.

The most frequent causes of coprostasis were intestinal atony, paralytic affections (locomotor ataxia), large enemata, mineral drugs showing a tendency to accumulate, painful ailments about the anus (fissure), and irregular habits. In children it might result from congenital narrowing of the anus or rectum, and in adults from adhesions following a surgical operation or typhoid fever, stricture, carcinoma, or tumour in a neighbouring organ. The quantity and quality of the food taken sometimes became an etiologic factor in impaction. This was thoroughly demonstrated during the Irish famine in 1846, when fæcal accumulations were frequently caused by eating the husks of potatoes. Again, it had been shown by Monro that the people of Scotland were frequently and similarly affected as a result of eating large quantities of coarse oatmeal. A mass might have for its starting point a plum, cherry, or gall-stone, around which the fæces collect like the snow on a snowball. Houston's valves, when large, thickened, and rigid, might cause impaction.

The symptoms varied, depending upon the cause, size, consistence, and location of the impacted mass. In the beginning, there was constipation; later, constipation alternating with diarrhœa, and finally a diarrhœa of the most annoying and persistent kind. Because liquid fæces were being discharged around or through the fæcal tumour, the patient's real ailment was frequently not suspected by patient or physician. In some cases the movements had a vile odour. These sufferers were nervous, despondent, and restless, had a muddy complexion, disagreeable breath, indigestion, barking cough, morning vomiting, cold feet, night-sweats (Allingham), thirst, loss of appetite, dizziness, sometimes jaundice, albuminuria, seminal emissions, varicocele, frequent micturition, sphincteric spasm, nipple-shaped anus (Allingham), and inflamed rectal mucosa. The pain from a fæcal impaction was local and interrupted when small, but became continuous and disseminated as it grew



larger. The mass produced a sensation of weight and fulness in the rectum, frequent and prolonged straining and bearing-down pains similar to those experienced during labour. Pain was not confined to the anal region, being frequently reflected to the abdomen, back, neighbouring organs, and down the limbs, caused by pressure on the sciatic nerves. In persons suffering from impaction and fæcal toxæmia the temperature was irregular, the pulse small and weak, and respiration difficult. They had a troubled expression, were anæmic, and occasionally completely collapsed from exhaustion. There might be local or general peritonitis, ulceration, perforation, and fæcal vomiting in extreme cases, due to pressure and occlusion.

The length of time one could live without defæcation had long been the subject of debate, and still remained in doubt. Cases had been recorded where complete occlusion from coprostasis had existed for from one week to more than six months. The author has treated several cases due to stricture in persons who had not had an evacuation in from two weeks to two and three months, and yet some of them were fairly comfortable and did not seem to worry.

Coprostasis was the most frequent cause of *paralytic ileus*; the collected fæces prevented the downward peristaltic action, interfered with proper nutrition and the nervous supply of the intestine, and resulted in contraction of the bowel below the obstruction. Another serious and frequent sequela of large fæcal accumulations was dilatation of the colon. The bowel sometimes assumed enormous proportions. Chronic constipation accompanied by impaction was always an important etiologic factor in chlorosis. The anæmic condition of the blood was brought about as a result of a general fæcal toxæmia. Hence the importance of teaching young girls to be regular in going to stool. This toxæmia produced a depressing effect upon the mind, and many of these sufferers did not take any interest in business, sought seclusion, and not a few had suicidal tendencies. In extreme cases, it had been known to produce temporary mania, and in young children symptoms simulating cerebro-spinal meningitis. Self-infection from fæcal accumulation had induced hyperæmia and œdema of the brain, congestion of the lungs and acute parenchymatous degeneration of the heart, kidneys, and lungs (Von Sölder).

Fæcal impaction was less difficult to diagnosticate than other varieties of intestinal occlusion, yet the task was not always an easy one. When a hard, large fæcal mass uncovered by mucous membrane was situated in the lower rectum, a digital examination quickly revealed its nature, but when it was partially covered by the mucosa, or located in the sigmoid flexure or

colon, it was often perplexing to make a positive diagnosis. It must be borne in mind that tumours of the intestine, bladder, vagina, uterus, tubes, ovaries, and prostate sometimes caused intestinal occlusion and a long train of symptoms similar to those caused by coprostasis. When the accumulation was in the rectum it was frequently mistaken by the experienced finger for carcinoma, because the mass pushed the mucous membrane down in front of it, giving to the touch a sensation similar to that of submucous cancer. Symptoms common to both impaction and carcinoma were constipation in the beginning, diarrhoea later, straining frequent micturition, tumour, and reflected pains. Fæcal impaction could be distinguished from gallstone, enterolith, and pancreatic obstruction by the doughy feel and the large size of the tumour. When a tumour presented in the sigmoid or colon, causing dangerous symptoms of occlusion, and its nature was not apparent after getting the history and making a thorough examination by means of palpation and the colon tubes, the abdomen, intestine, or both, should be opened without delay, when an accurate diagnosis could be made. The rectum and vagina should be examined in all cases of constipation and obstipation in search for an impaction.

As to treatment, when the accumulation was small, not too dense, and was located in the lower rectum, it could always be softened and evacuated by frequent copious enemata of warm soap suds containing oil and glycerine. The following was a very satisfactory combination : R Soap suds, 1 pint ; castor oil, 1 ounce ; glycerine, 2 ounces : M. Inject into the rectum every two hours, to be retained as long as possible. If the mass has been in the rectum for some time, was large, round, or hard and nodular, more radical measures were indicated, for in such cases the tumour was covered with a slimy mucus, and water could not permeate it. It was necessary to break up the accumulation into small particles, when irrigation would enable the patient to evacuate them. This could be done with the fingers, a spoon handle, or with rectal forceps. When the mass had been present a considerable time, causing dangerous symptoms of occlusion, the sphincter muscle should be divulsed under general anæsthesia, and the tumour delivered at once, whole or in sections. When located in the sigmoid and colon, a copious injection of the formula previously named should be thrown high into the bowel by means of the long rubber colon tube. Massage was a valuable agent in obstinate cases, and when practised in an intelligent manner, fæcal tumours in any part of the intestine might be dislodged, broken up, and pushed downward until they could be removed with the finger or washed out with enemata. Now and then all palliative measures failed,



and it became necessary to open the abdomen and do a sigmoidotomy or a colotomy, and deliver the mass when possible. When the impaction was caused by a stricture or tumour which could not be removed, a permanent artificial anus should be established, adhesions should be broken up, and the wounds in both the intestine and abdomen should be closed immediately. Purgatives were always contra-indicated in these cases, because the obstruction is purely mechanical.—*From abstract in New York Medical Journal, March 9, 1901.*

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## DISEASES OF THE URINARY ORGANS.

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### 64.—SOME OBSERVATIONS ON RENAL CASTS.

By WALTER E. TOBIE, M.D.,

Portland, Me.

[From Dr. Tobie's paper :]

In making a systematic microscopic examination of urine, one cannot fail to be impressed with the frequent existence of casts, and that, too, in many instances, without a co-existing albuminuria. So closely has the presence of casts become associated with albuminuria that it is far from the universal practice to submit the urine to a microscopic examination unless albumin has been found ; and it is only since the centrifuge has come into more general use that the significance of each has begun to be better understood. The advantage of securing the sediment from a freshly voided urine unaffected by fermentative changes is too apparent to require defence. It is noticeable that by so doing hyaline casts are found in many instances where neither clinical history nor chemical examination would seem to point to their presence. The custom of obtaining urinary sediments by allowing the urine to stand for twelve to twenty-four hours in a conical glass has given fair results ; but the urine necessarily undergoes bacterial and chemical changes, and it seems not unreasonable to believe that structures so delicate as hyaline casts may by these changes become disintegrated or so altered as to be difficult or impossible of detection. Certainly there is no good reason for believing kidney disease to be increasing to the alarming extent that microscopic examination of urine might imply. The increase is apparent

and depends upon better and more systematic urinary examination.

From the analysis that I have made in the laboratory of Dr. Alfred King, I have taken 200 in regular order, without any attempt at selection as regards season of the year, age of the patients, or their diseases. The results as regards albumin and casts are as follows :

Urine containing	neither albumin nor casts	...	...	109
"	"	albumin without casts	...	29
"	"	"	with casts	35
"	"	casts without albumin	...	27
				<hr/>
				200

It will be seen that the cases of albumin with casts were rather more frequent than either alone. In making these tests, every effort was made to detect minute traces of albumin. Had this not been done, the proportion of cases where casts occurred without albumin would have been very materially increased. The cases of albumin without casts were almost invariably due to blood or pus from the genito-urinary passages.

I have mentioned three influences which might affect a series of urinary examinations as regards casts, the first being the season. This has a bearing only to the extent that diseases affecting the kidneys are more common at certain seasons, notably, the winter and early spring. Age is a decidedly important factor. Although it has long been taught that the kidneys in old age undergo a change comparable to that of cirrhotic kidney, it is not generally appreciated how common this condition is, nor how early in life the change may begin. Repeated examinations of urine from patients between 50 and 60, certainly far from senile, show the presence of hyaline casts in many instances. Inasmuch as they may be present for many years without symptoms pointing to their existence, these questions naturally suggest themselves. Is the mere presence of hyaline casts necessarily a grave omen? May not the disease be checked or even of itself cease to advance? May they not be present in urine from kidneys whose excreting functions are practically normal?

The occurrence of casts with chronic constitutional diseases is extremely common, but the influences determining their formation are not altogether apparent. Thus in the constitutional disturbance accompanying carcinoma I found, while a house doctor at the Maine General Hospital, that hyaline casts were very common and that the urine was almost invariably free from albumin. This observation became so strikingly frequent that I was led to believe that some relation existed between the carcinoma and the production of casts, and that it resulted from some impairment of nutrition or from poisonous products



occurring in the cancer formation. It was noticed, also, that in many of these cases the administration of ether caused no noticeable disturbance of the kidney functions.

Considering the importance attached to kidney disease by life insurance companies, the means employed by their examiners for detecting the same are surprisingly lax, since a microscopic examination is not part of the routine. While I should question very much the advisability of making the presence of casts a standard for refusal, it certainly should constitute a reason for a more searching examination regarding the eliminating functions of the kidneys.—*Boston Medical and Surgical Journal*, November 22, 1900.

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### 65:—THE TREATMENT OF SCARLATINAL NEPHRITIS.

By ROBERT COLEMAN KEMP, M.D., New York.

[The following general considerations and directions in prophylaxis are taken from Dr. Kemp's paper:]

*General directions.*—Elimination of the toxins of scarlatinal nephritis should be increased by improving the renal secretion, and skin and bowel action. Plenty of water (boiled) and cool, but not ice-cold, is one of our best diuretics and eliminatives. Alkaline mineral waters are also excellent. Dr. Holt finds water to which a small dose (2 or 3 grains) of an alkaline diuretic, such as citrate of potash, has been added, to be of value. The bowels should be kept freely open by saline cathartics so as to secure one or two loose movements daily. The skin should be kept in good condition by frequent sponging and warm baths. Absolute rest in bed should be insisted upon. In fact, in general the suggestion of Dr. Winters that bed treatment in scarlatina should be of six weeks' duration is excellent. We agree with him in so far that scarlatinal nephritis may occur in a mild case of the disease, and that exposure to cold or draughts of air during desquamation, or, in fact, anything that may cause interference with the proper performance of the functions of the skin, may be an accessory factor in causing the nephritis or an exacerbation of the same. The diet should be milk or one of its derivatives—milk and lime water, or milk and vichy, peptonised milk, buttermilk, matzoon, koumyss, leben, whey, junket, malted milk, a thin gruel mixed with milk, or barley water and milk. Most of the mild cases tend to spontaneous recovery under rest in bed, fluid diet, plenty of water, and the proper attention to the skin and bowels. Some of the iron preparations, as tinct. of the chloride,

have often to be given on account of the marked anæmia, and some little solid food (farinaceous) must be cautiously employed if there is great loss of weight. If the disease tends to become subacute or chronic, change to a warmer climate may be necessary, and flannels should be worn next to the skin in such cases.

*Prophylaxis.*—We believe that care exercised from the incipency of scarlatina will lessen the chances of a scarlatinal nephritis, such as the absolute restriction to fluid diet (milk or derivatives), plenty of water, attention to the skin and bowels, and rest in bed, even in the mildest cases. The febrile albuminuria, or in fact any renal disturbance whatever, should receive treatment, as even such condition might become one of acute congestion of the kidneys, hence diaphoretic treatment, as hot baths, &c., should be employed, and diuresis be produced. It seems to us that too little attention is given to these so-called “temporary and unimportant” conditions. The plea that the average busy practitioner has “no time” for examination of urine once a day in such cases has no more weight than that of a man who has no time to attend to the details of his business. The simple boiling test for albumin and urates and obtaining the specific gravity requires little time, or it is easy to secure assistance in such work. The microscopical examination could be made every other day for the first two weeks. We believe in such precautions throughout the disease from its incipency. In severe cases with scanty urine, fever, and marked dropsy Dr. Holt advises the hot pack or vapour bath, and even pilocarpine hypodermically, 1/60 gr. to a child three or four years of age. To counteract the depressing effects of this drug stimulants should be given at the same time. There should be active counter-irritation over the kidneys by dry cups, followed by poultices or mustard paste. Rochelle or Epsom salt he advises as best to secure two or three loose movements, or calomel, but depletion should not be carried too far. In suppression with uræmic symptoms, high temperature, delirium, pulse of high tension, &c., he advises nitroglycerine (1/300 gr.) every hour for three or four doses to a child five years, or until an effect is produced.

Uræmic convulsions at times can be averted by the use of morphine, but venesection is the most rapid and certain to give relief. Two to six ounces of blood from a child of five years may be taken, according to the general condition or urgency of the symptoms. The improvement, though often only temporary, gives time for the employment of catharsis, diuresis, and other measures. The venesection may be followed by an infusion of normal saline solution at 120 deg. F. (1 dram of salt to water OI). The amount introduced would be nearly twice



that of the blood taken. This overcomes the depressing effects, and acts to wash the blood and toxic elimination. One should watch for complications, such as dropsy of the serous cavities, pericarditis, endocarditis, or pulmonary œdema.—*Pædiatrics*, December 15, 1900.

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## 66.—CLINICAL VARIETIES OF BRIGHT'S DISEASE.

By JOHN ROSE BRADFORD, M.D., D.Sc., F.R.C.P. Lond.,  
Physician to University College Hospital.

[From Dr. Bradford's paper :]

Clinically two varieties of chronic Bright's disease may certainly be recognised. One is a condition in which the patient suffers from dropsy and passes a scanty and highly albuminous urine loaded with casts. This variety of the disease is familiar to every practitioner, and such patients usually come under observation either on account of the dropsy or on account of the anæmia and cachexia that are produced by the disease. In many such cases the onset of dropsy is the first symptom that attracts attention, and the suddenness of this onset may be such as to merit the term of "subacute." Probably the great majority of cases of Bright's disease accompanied by dropsy are of this type, and certainly in my experience it is unusual to get a history of sudden onset with more violent symptoms, such as pain in the back, blood in the urine, &c. Although in the majority of cases the onset of the disease is gradual, it is, of course, undoubted that in a certain number of cases this condition follows more or less rapidly on acute Bright's disease, and in a few it may result as a sequel of acute Bright's disease.

The other variety of chronic Bright's disease which is also exceedingly common is one where the patient presents no signs of dropsy, and where, notwithstanding the fact that the urine is highly albuminous, the quantity is not greatly diminished and in some cases is considerably increased. In this second variety of the disease the patient comes under observation either on account of progressive weakness and anæmia and all the symptoms dependent on these or else on account of symptoms dependent on the disturbance of the circulation produced by the high tension and cardio-vascular changes associated with the disease. In many cases of this second variety of chronic Bright's disease the patient may present symptoms of very great impairment of nutrition that has occurred as a result of the renal lesion. Such patients, for example, are often greatly emaciated, and may actually seek advice on account

of the loss of flesh. In some cases pigmentation of the skin simulating that seen in Addison's disease is present. This second variety of chronic Bright's disease is much more likely to be overlooked—unless a routine examination of the urine is made—than the first, where the presence of dropsy and very often gastro-intestinal symptoms immediately draws attention to the desirability of examining the urine. But where a patient comes under observation on account of loss of flesh or weakness and perhaps some headache from the arterial changes that have occurred, unless the urine be examined or the fundus oculi be looked at a very serious and grave disease may be overlooked.

These two varieties of chronic Bright's disease not only present different symptoms clinically, but the lesions found after death are also notably different. To the form of the disease where clinically dropsy is a prominent symptom the name of the "large white kidney" is usually applied. To the other form, characterised clinically by the absence of dropsy and the presence of grave nutritional and arterial changes, the term of "contracted kidney" or "contracted white kidney" is perhaps most applicable. This last condition, however, must be carefully distinguished from the true granular kidney, which is not entitled to be regarded as a variety of Bright's disease, and is really a degenerative lesion associated with widespread arterial changes.

We may, then, recognise three fundamental varieties of Bright's disease, all of which are common—viz., acute Bright's disease, chronic Bright's disease associated with dropsy, and chronic Bright's disease unaccompanied by dropsy, but where serious nutritional disturbance is present. The term "large white kidney" was more applicable to the first variety of chronic Bright's disease in former years, when waxy degeneration was a more common phenomenon in the post-mortem room than it is now. Although it is difficult to get rid of the term "large white kidney" as descriptive of this variety of Bright's disease, as a matter of fact the really large white kidney is rarely seen in the post-mortem room at the present day, and one of the specimens originally described by Bright as an instance of this condition was one where amyloid changes were very marked.

In most cases of this form of Bright's disease the kidneys are found either of a normal size or else slightly above it, the cortex is increased in thickness, the capsule is thin and non-adherent, and on stripping leaves a pale, smooth, waxy-looking, and marbled surface, the pyramidal portions of the kidney being deeply congested. In the second variety of chronic Bright's disease the kidneys are always shrunken, often to a considerable extent, the capsule is thickened and slightly adherent, and on stripping leaves a coarsely granular but mottled surface, and the



cortex is greatly diminished in amount, often measuring not more than one-eighth or one-sixth of an inch in width. In these cases of contracted white kidney arterial changes in varying amount are usually present. In many cases the heart is greatly hypertrophied and the arteries have undergone similar changes to those seen in advanced cases of granular kidney. In others the arterial and cardiac lesions are less marked, and the degree of cardio-vascular degeneration cannot be correlated accurately with the extent of the renal lesion, since in some cases the kidneys may be greatly shrunken and the arterial changes slight, and in others where the lesion has not advanced to such a great extent in the kidney arterial changes are more marked. The arterial changes in this variety of chronic Bright's disease can not only be often recognised clinically by the character of the pulse, but also by the state of the vessels in the fundus oculi. The importance of examining the optic disc in cases of suspected chronic Bright's disease cannot be over-estimated. In many cases a rigidity and wire-like appearance of the arteries of the fundus can be detected prior to the onset of albuminuric retinitis, although this also is common in such cases.—*Lancet*, January, 1901.

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#### 67.—MALARIAL HÆMOGLOBINURIA.

By WILLIAM BRITT. BURNS, M.D.

[From Dr. Burns' paper. The cases are omitted. The term black-water fever is synonymous with malarial hæmoglobinuria :]

The pathology and pathologic anatomy of malarial hæmoglobinuria is in all essential particulars the same as—and in fact is—that of a malignant malaria, with the addition of hæmoglobin in the urine and rapidly increasing jaundice. There is always a history of one or more paroxysms—chills and fever—with insufficient or no treatment. A cachectic may have had no active manifestations of malaria for months, and after undue exposure or fatigue, have a violent hæmoglobinuria and die in twenty-four hours. Usually, however, there are two, three or four, or even more paroxysms, immediately prior to the hæmoglobinuric symptoms. There may or may not be a cold stage ; my cases have all shown a short mild cold stage with distressing prolonged fever, sometimes very high temperature, more often not to exceed 103-4 F. When the fevers have been of short duration the urine has cleared up rapidly ; this has been no assurance though that at the end of twelve or twenty-four hours longer an exacerbation of all symptoms would not come on in an aggravated form.

The general appearance of the patient, if seen early after the colouration of the urine, is one of more or less excitement ; the face is blanched as if in extreme shock ; the eyes follow every movement ; the speech is catchy and respiration sighing ; he may be fairly quiet, more often there is restlessness, at times tossing over the bed, seeking a comfortable place ; yet he seldom complains of pain. Indeed, the rule seems to be that there is very little pain, and if asked will answer that there is no suffering ; but he goes on sighing and groaning. I have seen persons with a notably clear skin and scleræ pass black-water with a first or second paroxysm, and in twelve hours present the colour of saffron. The spleen and liver are nearly always palpable below the costal margins and are extremely tender ; some tenderness exists over the kidneys, sometimes extreme backache. Nausea and vomiting are usually present, but it is only rarely that it is so prominent that the stomach has to be abandoned in treatment altogether. These symptoms obtain far more often in acute malaria than in hæmoglobinuria. The vomited matter may be at first a straw colour, but it soon becomes green, dark-green, brown, almost black, blue-black and grumous, sometimes offensive. After icterus comes on, the saliva, perspiration and lachrymal fluids are loaded with bile pigment, which responds to bile tests. The urine is from a poke-berry juice to a black-coffee colour. All of these fluids, and the fæces when diluted, show a saffron stain and deposit of bile salts on linen. Consequent upon repeated and accumulating infection we have the destruction of red corpuscles by the malarial parasites, the liberation of hæmoglobin along with the malaria toxins into the blood plasma. The kidneys in an early stage of the disease are enlarged and congested ; the tubules are blocked with hæmoglobin infarcts ; the cells are loaded with yellow pigment grains, and the capillaries with black malarial pigment. If the patient survives three or four weeks he is said to die of uræmia. The appearances are then those of the large white kidneys. The severest cases of nephritis of malarial origin are found in hæmoglobinuria. The urine between the attacks may be perfectly or practically normal, but with the attack it becomes, as before mentioned, from a poke-berry juice to a black-coffee colour, somewhat turbid and smoky in appearance, and when allowed to stand precipitates an abundant chocolate-like sediment. This sediment is chiefly amorphous granular matter, disorganised corpuscles, with minute hæmatin crystals. Urea is generally increased ; albumin is in abundance and globulin may be seen on close testing. The specific gravity ranges between 1,015 and 1,030, is usually acid reaction, but oftentimes faintly alkaline, and the volume may be increased. There are casts, principally dark granular ones, though hyaline



casts may be found. Many of the casts are made up of hæmoglobin. Rarely a few scattering blood-corpuscles are noted.

Hæmoglobinuria occurs in the old residents, usually after the second or third year, rarely in new-comers, more often in males than in females. This is probably on account of the greater exposure of the male. Out of 16 cases seen by me, 13 were males and three females, the oldest being 38 and the youngest 5 years of age. Dr. McElroy, of Stovall, Miss., shows a record of 40 cases; of these there were 30 males and 10 females. Hæmoglobinuria is extremely rare in infants. The parasitology or hæmoglobinuria, so far as my observations go, is æstivo-autumnal pure and simple; and I believe this is the consensus of opinion; there are those, on the other hand, who hold to a special parasite, and others appear to have observed a special bacillus in the blood and urine.

*Treatment.*—Of my first six cases, two died, one of these latter never having had a movement from the bowels, despite large doses of calomel and frequent enemas. Calomel, turpentine, eliminants, hot applications and supportives formed the treatment. I am persuaded that this gave a good percentage of recoveries. No. 7 bade fair to recover; urine was clear for 72 hours; but the patient relapsed after gormandising; collapse followed with suppression of urine and passing of fæces; yet his kidneys partially recovered, and he became strong enough to start on a journey home, but died on the way. No. 8 got on nicely without quinine. Nos. 9 and 10 died. No. 11, a little girl of 5, had no chill in two or three months; then she had a chill at 3 a.m. I was not called until 8 a.m., at which time she passed the first black-water. Calomel, strychnine, hot applications, and mustard bath were employed. Urine cleared up perceptibly and symptoms subsided, but at midnight urine darkened again, and remained so the following day, though voided in large quantities. Icterus became marked. Vomiting was distressing, and restlessness pitiable; delirium came on at 5 p.m.; another chill occurred and urine became black; there were plasmodia present. I finally gave quinine, also normal salt solution by hypodermoclysis. It was too late to be of benefit. Nos. 12, 13, 14, 15, and 16 were given the same treatment plus quinine. All recovered nicely. Nos. 12 and 13 were the same person in two separate attacks. I now depend more on quinine. Nos. 12, 13, 15, and 16 took quinine in large doses before the hæmoglobinuria came on. Other agents are methylene blue, nutmeg, and tannic acid. The first I have used in one case, but very little of it was retained; vomiting was excited every time it was given. I regard, though, methylene blue quite favourably in cachexia.—*Journal of the American Medical Association, November 17, 1900.*

## 68.—THE TREATMENT OF MALARIAL HÆMATURIA.

By T. H. WATKINS, M.D.,  
Lake Charles, Louisiana.

[From Dr. Watkins' paper :]

My experience with malarial hæmaturia in private practice has been limited to nine cases, three of which died, six recovering entirely. Five were of a malignant type, three of which died ; four being of an intermittent type, and were prevented from assuming a malignant type by proper treatment. Four of the malignant cases were males, three of which died. Five of the cases were females, all of which recovered. In my opinion the best preventive treatment is as follows : Drinking boiled water, remaining indoors from sunset to sunrise, living in a house well elevated above ground. This opinion is based on my own experience as well as upon accepted theories, for one of my pernicious cases had been hunting almost every night for three weeks previous to his illness ; another was a night-watchman at an ice factory located on a river and just opposite a swamp ; and another was a night-watchman at a sawmill similarly situated. In a pernicious malarial district five grains of quinine should be taken before breakfast daily. I advise early taking because circulation and absorption are better at that time, and also because the effect of quinine on the nervous system is less disturbing when taken at the time referred to. Arsenic, of course, might be taken, but I have found that arsenic without quinine seems to have absolutely no anti-periodic effect.

As to treatment of hæmaturia, I favour the following : Give calomel and bicarbonate of soda, each two grains every hour until bowels act freely. If satisfactory evacuations do not occur after eight or ten doses, give magnesia sulphate in hot water until desired effect is produced. The bowels are often very obstinate, and it is necessary to combine podophyllin and aloin with the mercurial. If the patient should be comatose, give calomel in large doses (60 grains if necessary) in fresh butter, placing same in mouth and depending upon the warmth of the mouth to facilitate swallowing. In this condition, where absorption is doubtful, quinine bisulphate should be used hypodermically. I prefer the following : Quinine bisulphate, 2 drachms ; sulphuric acid, dil., q. s. (very little required when mixture is heated) ; carbolic acid, 2 drops ; water, q. s. ad  $\frac{1}{2}$  oz. M. Sig.: 20 drops hypodermically every two hours until patient is thoroughly cinchonised ; then give every four hours. The



carbolic acid is used to prevent the formation of abscesses. After the bowels have acted from calomel and magnesia, give hyposulphite of sodium 20 grains every two hours until a continued purgative effect has been obtained ; same being used to lessen the congestion of the kidneys, and for its depleting effect on bowels, liver, &c.; also to increase the alkalinity of the blood, and for its diuretic effect. I think I have had good results from spirits of turpentine and ergot for anti-hemorrhagic effect. No coal-tar products should be given under any circumstances. If temperature is high, I depend upon sponging with hot or cold water to reduce it. If patient shows a profound nervous disturbance and sleeplessness is present, I give morphine hypodermically and bromides by the mouth. For heart stimulants I resort to strychnine and nitroglycerine when indicated. [The details of the cases illustrating the good and bad effects of quinine are omitted here.] I am an advocate of the vigorous and persistent use of quinine in these cases. I accept the theory that the invasion of the malarial germ breaks up the integrity of the kidneys, and is the sole cause of this fatal disease. Without the use of quinine we are robbed of our most powerful and almost our only weapon in acute malaria of whatever type. I find upon inquiry of old physicians that some of them do not give quinine until after the bowels have acted freely from large doses of mercurials ; then they give it in enormous doses. We have in this section a large number of cases of the comatose variety of pernicious malaria. —*Therapeutic Gazette*, May 15, 1901.

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## 69.—DIET IN CHRONIC BRIGHT'S DISEASE.

By ALFRED G. BARRS, M.D. Edin., F.R.C.P. Lond.,  
Professor of Medicine in the Yorkshire College (Victoria  
University) ; Physician to the Leeds General Infirmary.

[Taken from Dr. Barrs' paper on Some Clinical Aspects of Chronic Bright's Disease :]

In laying down a dietary for a patient suffering from chronic renal disease I think we are too apt to forget that he is entitled, like any other sufferer, to such food as will keep him as far as possible in comfortable use and enjoyment of so much of life as may be left to him. Chronic Bright's disease is a very chronic disease in many cases, and is not, when properly managed, incompatible with much usefulness and not a little enjoyment of life ; and we ought to exercise every care that

such usefulness and enjoyment are not unnecessarily curtailed by anything we may do. All mortal disorders of the body, even phthisis and cancer, have their natural level of health and strength, and our care should be that our patients should not fall below that level as the result of any treatment which we may advise. We do not keep all patients suffering from chronic Bright's disease in bed to the end of their days, neither, in my opinion, should they be kept on continuously restricted diets. I have no doubt that our practice in this matter in renal disease has a more scientific basis than in many other instances. To limit the input of proteid material so as to bring the work of the diseased kidney within its capacity is to act on scientific lines, but we know so little of the more remote stages of nitrogenous metabolism that beyond this very general statement of our object we cannot safely go. Yet there is no disease in which the tyranny of diet has been so recklessly practised. To live for weeks and weeks on a purely milk diet is not, I am sure, in many cases, necessary, and in some cases it is distinctly harmful, and there is no clear evidence that it meets the scientific indication. Some personal experiments made by Dr. Engelbert Taylor in the Pepper Laboratory of Clinical Medicine showed that the total output of nitrogen was greater on a purely milk diet than on an ordinary mixed diet. I only quote this to show that it can be demonstrated that so far as the urea output is concerned there is no advantage in a purely milk diet. Dr. Hale White has shown the same thing clinically in chronic Bright's disease. My own practice in the matter of diet is simplicity itself, and I believe in the great majority of cases it is advantageous for the patient. My rule is that if the bowels are acting freely the patient may live on such ordinary mixed diet, including meat, as he has an appetite for and can digest. Patients who are confined to bed and suffering from uræmic vomiting or diarrhœa, and are therefore getting towards the end of the disease, cannot of course have any appetite, and the difficulty is to contrive food of any kind for them.

In 1897 there was in the Leeds Infirmary for the whole year a man suffering from large white kidney (that was the clinical diagnosis). Dropsy was his chief and almost only distress. His abdomen was tapped for ascites no fewer than eleven times. At the end of twelve months his dropsy had entirely disappeared, and he was practically well so far as the symptoms were concerned. He returned to his work and continued at it for six months, then came back to the infirmary with dropsy as before, and was tapped again several times. During the whole time he was in the infirmary he lived on ordinary diet, and I may say he also lived upon the "white mixture," for that was his only medicine.



The distinctions which we draw between the different meats in dieting cases of renal disease and gout are to my mind ridiculous. A patient may eat chicken and fish, and not mutton ; mutton and not beef, and so on. I am sure there is no reason for this. Pork which is white, and in the case of Alexis St. Martin, was shown to be the most digestible of meats, is usually entirely forbidden. Van Noorden mentions the case of a patient with chronic parenchymatous nephritis, who took half-a-pound of poultry daily for five days, excreted the same amount of nitrogen, and a trifle more albumen than he did in the next five days, in which, instead of poultry he took an equivalent amount of nitrogen of beef. Water and other fluid sustenance should be freely taken. Alcohol is perhaps as well avoided if cardiac failure does not require it. Climatic treatment, when at the disposal of the patient, is an important aid, but I do not propose to discuss it in detail.—*British Medical Journal*, March 30, 1901.

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## 70.—THE CLIMATIC TREATMENT OF CHRONIC BRIGHT'S DISEASE.

By JAMES TYSON, M.D., Philadelphia,

Professor of Medicine in the University of Pennsylvania ; and

T. MELLOR TYSON, M.D., Philadelphia,

Assistant Physician to the Hospital of the University of Pennsylvania.

[From Drs. Tysons' paper :]

Reasoning from general principles, we conclude that by far the most important factor in the treatment of chronic Bright's disease is that there should be as little cold, moisture, and variation in temperature as possible. Hence the hot, dry climate should be more beneficial than a cold, dry climate ; either is better than a temperate climate, such as that found in the United States, with ground saturated with moisture and consequent dampness, with sudden changes of temperature, and marked difference between the day and night temperatures. It is acknowledged that renal disease is more prevalent in such a temperate climate, less in a cold, and rare in a warm. The kidneys do more work in a changing temperature climate, and, therefore, are more subject to derangement, while in a hot climate the liver and skin are more disposed to disease, and in a cold climate the lungs. These tendencies must, of course,

be influenced by such conditions as overwork, worry, syphilis, gout, and excessive use of alcohol. In view of the increased function of the skin and kidneys through the ingestion of water, generally taken in large quantities, the hot, dry climate would seem best adapted to influence favourably renal disease. Another important agency is the effect of winds, which are known to be very detrimental, and which are met with in all, although they are more prevalent in cold, climates.

Dr. S. E. Solly, in his book on Medical Climatology, says, "The direct tendency of altitude in chronic nephritis, as in most chronic diseases, is toward its cure. This beneficial influence is, doubtless, mainly exerted through the increased action of the lungs, and to a smaller extent of the skin, which lessens the work of the kidneys, and diminishes the renal congestion by the general stimulating and equalising of the circulation." He also states that he prefers a warm, low, inland climate, such as Egypt and Arizona, for the majority of cases of chronic Bright's disease. This is confirmed in part at least by Purdy's studies, which show a low rate of mortality in the South Mississippi River belt, where the mean elevation is 100 to 300 feet, the rainfall 50 to 55 inches, the mean temperature 60 deg. to 65 deg. F., and the death-rate from Bright's disease 3.14 per 1,000 deaths, as determined from the census of 1880. The South-West Central region, with an elevation of 100 to 500 feet, rainfall of 35 to 50 inches, temperature of 60 deg. to 70 deg. F., has a mortality of only 1.97 per 1,000. We cannot but think that some of these results may be due to the difficulty of securing accurate statistics in these regions.

In grouping together large areas we find that the mortality is highest in the Middle Atlantic Coast region, next in the North Atlantic, and next in the North-Eastern hills and plateaus, the South Atlantic Coast region, and, lastly and least, in the Southern Central region. In trying to explain the great variations in the death-rate in these different locations, Purdy rightly says that it is not to the climatic conditions alone in the Middle Atlantic Coast region that we must ascribe the greater number of deaths, but we must consider also the larger population, the habits and social condition of those living in the large cities, as well as the greater prevalence of certain diseases, like syphilis, scarlet fever, and pneumonia, which predispose to Bright's disease. In the North Atlantic Coast region, in which we do not find the same social condition and as many of the diseases causing Bright's disease, but where the climate is far worse than in the Middle Atlantic region, we must admit a larger influence of climate.



In the North-Eastern hills and plateaus, where the mortality is still less, there is more evenness of temperature than in the other two regions, although it is very cold and the winds are high ; we must conclude that the lessened mortality is due to the small amount of moisture. Again, in the Southern Atlantic regions there is a low death-rate, and, since moisture is more conspicuous, we must conclude that equality of temperature and diminished wind force are responsible factors.

Another feature which must be remembered in sending a patient to the region most suitable to his condition is that most cases of chronic Bright's disease have either a failing heart or one that has already lost compensation. Hence, we must not only decide upon a climate and an altitude suited to the renal affection, but also one that is adapted to the cardiac condition—a fact which makes the problem still more difficult. For such cases high altitudes are harmful.—*Medical News*, January 20, 1901.

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#### 71.—CYCLIC ALBUMINURIA.

[From leading article in the *Medical Record* :]

Among the latest and clearest presentations of the subject as regards our present-day knowledge are a short article by Dr. Herbert P. Hawkins, of London, which appeared in the *British Medical Journal*, December 9, 1899, and a small book written by Dr. G. A. Sutherland, also of London, published at the end of 1900. In the first instance, it must be premised that there is universal agreement as to the accuracy of Pavy's description of the characteristic features of this condition, which is as follows: "In the early morning the urine is free from albumin. Albumin then shows itself, it may be at 9, 10, or 11 a.m., or not till the early part of the afternoon. After reaching its maximum, it declines, and often by the evening it has disappeared. It is rare to find that it has not disappeared by bedtime." Then there should be no ambiguity with regard to the sense in which the word "albuminuria" is used, as Dr. Hawkins emphatically says: "It is used in the clinical sense and not in a laboratory sense." From a laboratory point of view the presence of albumin in urine is the rule rather than the exception.

So far as the age incidence of albuminuria is concerned, Hawkins says: "The age at which it commences and the absolute frequency of its occurrence are unknown, because the condition is nearly always discovered accidentally." In the tables given by Huebner and Sutherland, the striking feature

is the preponderance of these occurrences during adolescence. As regards the comparative frequency of sex incidence, Hawkins holds the view that our information is necessarily so imperfect that no definite statement can be made, while Sutherland, too, is by no means convinced of the validity of the prevailing belief that the "albuminuria of adolescence" is essentially an affection of the male sex—indeed, his own experience points to an opposite conclusion.

Both Dr. Hawkins and Dr. Sutherland agree that morning albuminuria is dependent on rising up, the standing or moving about in the early part of the day, and that it is not influenced by the taking of food. Dr. Sutherland is of the opinion that it is not dependent upon, although probably increased by, walking-exercise. Dr. Hawkins says all our evidence tends to indicate: (1) That the immediate cause of the escape of albumin is temporary impairment of the efficiency of the epithelium of the glomeruli, but (2) that the impairment in epithelial efficiency is itself the result of temporary alterations in the blood pressure in the glomerular capillaries. In other words, the actual seat of the trouble appears to be in the vasomotor mechanism, which regulates the blood flow into and out of the glomeruli, and not in the kidney structure. Dr. Sutherland coincides in opinion with Huebner, Marie, and others, that there is a general pathological condition present, to which the various symptoms may be ascribed, produced by instability of the nervous system, and is further disposed to think that the affection represents a condition of toxæmia, similar to, or identical with, the uric-acid diathesis. Upon the question of prognosis it is, of course, well known that there is a wide divergence of opinion, the majority of those who have made a study of this form of albuminuria holding that it is not unfavourable. Dr. Hawkins on this point gives a judiciously qualified pronouncement. He is not too optimistic, but, upon the whole, he is inclined to look upon the bright rather than upon the dark side. Dr. Sutherland naturally does not commit himself to the expression of any definite views; but, as may be judged from the position he takes with regard to the etiology and pathology, he does not anticipate an ultimate, complete recovery. He adds the saving clause, nevertheless, that there is no evidence of any one having died of cyclic albuminuria, nor of Bright's disease supervening upon it, and thinks that a person in this state will under suitable surroundings and leading a careful life enjoy average good health. Neither of the above-mentioned physicians opines that medicinal treatment is either necessary or useful. Perhaps the greater number of physicians in this country will bear out the views of Dr. Hawkins as to the causation of cyclic



albuminuria, rather than those of Dr. Sutherland ; but why if the immediate cause of postural albuminuria be variation in the blood pressure in the kidneys—as is the common belief—is not more attention paid to examinations of the blood pressure, as indicated by the pulse, at different times in the day? It is certainly in some degree curious that after all these years of investigation a more accurate knowledge of cyclic albuminuria has not been attained. At present no one knows with certainty whether it is physiological or functional or tending towards organic change in the kidney. It is self-evident that the subject is of the very first importance, and its final settlement would take rank almost with the greatest medical discoveries of this or any age.—*Medical Record, April 20, 1901.*

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# Surgery.

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## GENERAL SURGERY AND THERAPEUTICS.

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### 72.—ANÆSTHETICS.

By GEORGE EASTES, M.B., F.R.C.S.,

President of the Metropolitan Counties Branch of the British Medical Association.

[The following are the conclusions of the Anæsthetic Committee of the British Medical Association, as given in Dr. George Eastes' paper. They are based upon an investigation of 25,920 cases.]

*Relative safety of the various anæsthetics.*—(1) The relative safety of the various anæsthetics may be gathered from the statistical tables in the report. When only those cases of danger which were held to be due entirely to the anæsthetics are considered, the following instructive figures are obtained, further emphasising the danger of chloroform as contrasted with ether. Cases of danger (including deaths) considered to be due entirely to the anæsthetic: Under chloroform, 78, giving a danger-rate of 0.582 per cent. Under the A.C.E. mixture, 1, giving a danger-rate of 0.147 per cent. Under mixtures of chloroform and ether, 2, giving a danger-rate of 0.478 per cent. Under the A.C.E. mixture followed by chloroform, 1, giving a danger-rate of 1.694 per cent. Under chloroform preceded by ether, 5, giving a danger-rate of 2.2 per cent. Under chloroform followed by mixtures of alcohol, chloroform, and ether, 1, giving a danger-rate of 0.36 per cent. Under ether 3, giving a danger-rate of 0.065 per cent. Under "gas and ether," 2, giving a danger-rate of 0.480 per cent. Under ether preceded by chloroform, 1, giving a danger-rate of 0.480 per cent. Under ether preceded by the A.C.E. mixture, 0. Under the chloroform group of anæsthetics (addition of the first six headings above), 88, giving a danger-rate of 0.584 per cent.



Under the ether group of anæsthetics (addition of the last four headings above), 6, giving a danger-rate of 0.085 per cent. (2) Although (excluding nitrous oxide) ether may be accepted as the safest routine agent, certain circumstances determined by the state of the patient, the nature of the operation, &c., may render the use of some other anæsthetic or combination of anæsthetics both safer and easier.

*The best methods of administration.*—(3) No method of administration of chloroform is free from danger, but an examination of the complicated cases appears to show that the occurrence of danger depends largely upon the administrator who employs any particular method. (4) No conclusion from the evidence before the Committee as to the best method of administration of ether and “gas and ether” is possible. (5) The data warrant the conclusion that the A.C.E. mixture should not be given from a closed inhaler—for example, Clover’s. This conclusion applies to all mixtures containing chloroform. (6) As regards the rate of use of the various anæsthetics, no conclusions other than those in the section on “Quantity of Anæsthetic Used,” p. 94, can be offered.

*Best methods of restoration.*—(7) The sub-committee are unable from the material at their disposal to draw any conclusion upon this point.

*Clinical evidence regarding anæsthetics generally.*—(8) Anæsthetics are more commonly associated with complications and dangers in males than in females. (9) Excluding infancy, and taking anæsthetics collectively, the complications and dangers of anæsthesia increase *pari passu* with advancing age. (10) Anæsthetics are notably more dangerous in proportion as the gravity of the patient’s state increases. (The conclusions arrived at in the Section on “Pathological States,” p. 76, are extremely instructive, and should be referred to in this connection). (11) Danger to life is especially likely to be incurred in early periods of the administration of anæsthetics, while the tendency to less grave complications increases directly with the duration of anæsthesia. (12) The tendency for complications, dangerous and otherwise, to occur, increases *pari passu* with the gravity of the operation.

*Clinical evidence regarding chloroform.*—(13) Chloroform is about twice as dangerous in males as in females. (14) Chloroform is most dangerous during early infancy and after 30 years of age; least so from 10 to 30 years of age. (15) In conditions of good health chloroform is very much more dangerous than other anæsthetics. In grave conditions chloroform still remains the least safe anæsthetic, but the disparity between it and other anæsthetics is far less marked than in health. (16) When danger occurs under chloroform, whatever its exact nature may

be, there is abundant evidence that in a large proportion of cases the symptoms that are observed are those of primary circulatory failure. (17) Imperfect anæsthesia is the cause of a large number of cases of danger under chloroform. (18) Vomiting during anæsthesia, which may lead to danger, seems to be more frequent under chloroform than under other anæsthetics. (19) Struggling is very much more frequent in the complicated cases under chloroform than in the uncomplicated, and this phenomenon must therefore be regarded as a source of grave danger under chloroform. (20) The tendency for circulatory complications to appear increases directly with the relative amount of chloroform in the anæsthetic employed. (21) While vomiting is more common after administration of ether, severe and prolonged vomiting is more common when chloroform has been used. (22) Circulatory depression following anæsthetics is more common after chloroform than after ether. (23) While the respiratory complications of anæsthesia as a whole are of equal frequency under the ether and chloroform groups respectively, yet those that occur under ether are mostly of a trifling and transitory nature, while those that occur under chloroform are more grave and persistent.

*Clinical evidence regarding ether.*—(24) Under ether the complications of anæsthesia are more frequent with males than with females, but with the former they are generally slight, ether being rather more dangerous with females than with males. (25) Ether, where employed throughout or preceded by nitrous oxide gas or by the A.C.E. mixture, is singularly free from danger in healthy patients. (26) Minor troubles in administration due to laryngeal irritation and increased secretion are more common under ether and “gas and ether” than under chloroform and its mixtures. (27) Struggling occurs more frequently with ether when given alone than with other anæsthetics, but it rarely leads to danger. (28) After-vomiting is more common with ether than with other anæsthetics, but it is usually transient. (29) Bronchitis is much more common as an after-effect of ether than of chloroform. (30) With “gas and ether,” as with ether, dangers are more common in females, although complications are more frequent in males.

*Clinical evidence regarding mixtures and successions of anæsthetics.*—(31) The A.C.E. mixture in most of the statistical tables holds an intermediate position between chloroform and ether. (32) The A.C.E. mixture is more dangerous in males than in females, but not to such a marked degree as is chloroform. (33) The administration of ether antecedent to chloroform does not abolish the possibility of chloroform dangers. (34) The various mixtures and successions of anæsthetics were recorded too infrequently to justify definite conclusions.



*General conclusion.*—(35) From the evidence before the sub-committee they are convinced that by far the most important factor in the safe administration of anæsthetics is the experience which has been acquired by the administrator. In many cases the anæsthetisation completely transcends the operation in gravity and importance, and to ensure success, particularly in these cases, it is absolutely essential that an anæsthetist of large experience should conduct the administration.—*British Medical Journal*, February 23, 1901.

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### 73.—OPERATIONS PERFORMED DURING SPINAL ANALGESIA.

By WILLIAM SEAMAN BAINBRIDGE, A.M., M.D., New York,  
Attending Surgeon to Randall's Island Hospital.

[The details of twenty-four cases have had to be omitted here. See also section on Obstetrics, and Synopsis.]

The position that spinal puncture is to occupy in the surgical world continues to be an open question. Notwithstanding the favourable reports of many observers and the discouraging experiences of the few, the vast majority of the medical profession are wisely deferring judgment until further experimental evidence has accumulated and any possible remote effects have had time to develop. The purpose of the present paper is to record the facts concerning some of the actual cases which have occurred in my practice, rather than the giving of an expression to any individual opinion. In the *Medical Record* of December 15, 1900, I reported my first cases. Since then I have had over forty additional ones.

*General remarks.*—The cases have not been specially selected. Some have been decidedly unfavourable for any operative procedure, and in a few the operation was at best a forlorn hope. By thus testing this method in all sorts of conditions, its proper position will be more quickly established. No difficulty has been experienced in introducing the needle either in adults or in children. A few times the needle has been clogged by a small blood-clot while the instrument passed through the soft tissues, before entering the spinal canal. A few experimenters, at such times, use the stylet, pushing into the intra-dural cavity whatever is in the needle. This is certainly to be condemned. The

withdrawal of the instrument and a fresh introduction is the better plan.

*Summary of fifty cases.*—(1) Cocaine is far more satisfactory than eucaine. The latter is less potent, more evanescent, the areas of analgesia are frequently “patchy,” having the pain sense retained all around them, and not being so complete below definite levels. The cocaine produces no more unpleasant after-effects than eucaine, and is decidedly more reliable. (2) Analgesia to the level of the diaphragm can be depended upon in all cases where a moderate dose of a potent solution of cocaine has been introduced by lumbar puncture. In some the analgesia is sufficient for operation on the upper extremities. (3) Complete analgesia, including the eyes, mouth, and throat, has occurred. It does not entail more severe after-effects than when the lower extremities only are involved. (4) The preparation of the patient as for a general anæsthetic diminishes all the unpleasant effects of cocaine and eucaine, and often prevents them altogether. (5) By moderate doses of bromides before the injection the initial vomiting is frequently avoided, and the liability of headache lessened. (6) In neurotic patients there are often hysterical symptoms directly following the completion of the injection, but, as a rule, in a few moments a calm follows, and the patient lies perfectly still. (7) Initial nausea and vomiting often occur soon after the puncture, but last only for a moment or two, and usually do not recur during the operation. As consciousness as well as the muscular power is preserved, the danger of the introduction of the vomitus into the lungs is practically nil. (8) Analgesia lasts from thirty minutes to four hours. (9) Depression after puncture is inconsiderable. The use of ethyl chloride (Bengue) largely prevents pain when the needle is introduced. (10) The preparation of the patient, the use of nitro-glycerine by hypodermatic injection, or the employment of coal-tar products with caffeine, control the headache, which is in many instances an after-effect of spinal puncture. (11) In a few cases there may be motor paraplegia or vertigo. Both are temporary. (12) Spinal puncture has not affected normal or diseased kidneys. (13) Usually the tactile power, muscular sense, and the ability to detect heat and cold are retained. The cautery at a dull red heat causes no pain, while hot water produces marked discomfort. (14) Usually the patient sleeps the first night. (15) There is often a temperature of a few degrees within eight or ten hours of the operation. Whether this is the direct result of the puncture or the effect of psychic disturbances is not determined. The circulation and respiration are not seriously embarrassed.—*Medical News*, May 4, 1901.



## 74.—DISLOCATION OF THE HUMERUS, WITH FRACTURE OF THE NECK OF THE BONE.

By WILLIAM TAYLOR, F.R.C.S. I.,

Surgeon to the Meath Hospital and Co. Dublin Infirmary.

[The author relates a case in a man over 60 years of age. The following is taken from the commentary:]

That the lesion is comparatively rare you will at once recognise when I tell you that, so far as the records of surgery go, only 122 cases have been reported up to the present time. The lesion is interesting to us all, not only on account of its rarity, but on account of the great impairment of function that must necessarily ensue if imperfectly treated. The variety of dislocation usually met with in these cases, as we would naturally expect, is subcoracoid, that being the commonest form of uncomplicated dislocation. When complicated by fracture it is said the head of the bone is often rotated on its axis, thus separating the fractured surfaces still more. This, again, is only what we should expect if we consider the manner in which the fracture is produced.

The site of the fracture in the majority of the recorded cases (59 per cent.) is stated to have been through the surgical neck, while in about 25 per cent. it is said to have been through the anatomical neck; and in the remaining 16 per cent. of the cases the site of fracture was vaguely stated to have been through the neck. In this case the line of fracture ran obliquely immediately below the anatomical neck in front, but emerged posteriorly one and a quarter inches below the head, thus running obliquely from in front and without, downwards, inwards, and backwards. Portion of the great tuberosity was torn off by the muscles attached thereto, while two other small portions of bone were broken off in the neighbourhood of the lesser tuberosity, and a small indentation or impaction of the compact tissue of the prominent inner part of the great tuberosity can easily be noticed in the specimen as well.

Measurements will show a fair amount of shortening. The points, then, on which you will rely in making your diagnosis of the double lesion are :—(1) Angularity of the shoulder and prominence of the acromion process. (2) Absence of the head of the bone from the glenoid cavity and its presence in some abnormal situation. (3) Increased perimeter of the shoulder. (4) Increased passive mobility of the arm, which can easily be approximated to the side while the hand rests upon the opposite shoulder. (5) Failure of the head of the bone to rotate on rotation of the arm—one of the most important signs of solution

in the continuity of the bone. (6) Crepitus and shortening on measurement. Finally, I would recommend in all cases that an x-ray photograph be taken. The prognosis must be bad unless operative treatment be undertaken. Let nothing ever induce you to attempt reduction by extension or by placing the heel in the axilla. The sharp, broken ends of the bone in this way may be made to do irreparable damage to the great vessels and nerves in the axilla.

Two lines of operative procedure may be adopted :—(1) To cut down upon the seat of fracture and reduce the dislocated head by enlarging, if necessary, the rent in the capsule, by grasping the head with a “lion” forceps, or by adopting M’Burney’s method of drilling the bone and placing a hook (or a sterilised piano wire would do as well) into the drill-hole, and pulling upon it at right angles to the trunk. Having reduced the head of the bone, the broken fragments should then be screwed or pegged together, or, if preferred, sutured with silver wire. The rent in the capsule is then to be carefully sutured up, the joint being previously thoroughly washed out, and all blood-clots removed ; finally the wound is closed with or without drainage, according to your own judgment and practice. Undoubtedly this operative procedure will give the best results where it can be carried out. The method of fixing the fractured ends firmly together permits of early passive movements being undertaken, thus preventing stiffness from adhesions forming inside the joint as well as in the injured tissues around. (2) Removal of the head of the bone—in fact performing excision, the only difference being that the head of the bone is already separated for you. Then round off any sharp spicula of bone you may find on the upper end of the humerus, wash out your wound and suture it up. This, I think, should be your line of procedure where your patient is old. It would also seem to me the proper treatment where the head of the bone was torn completely, or almost completely, from its attachment to the capsule—in other words, where the fracture runs through the anatomical neck. In such a case, if the head of the bone were left and fastened to the shaft, I should be very apprehensive of necrosis resulting.

The objection to excision is that the result will not be so perfect, and that, as the fracture generally runs through the surgical neck, a flail-like arm is likely to be the result of the removal of such a large piece of bone. These objections I quite recognise, but think that in such a case as we had to deal with here no other line of treatment, save that of excision, which was done, could have been entertained. If the patient is comparatively young and healthy, and if the line of fracture is below the tuberosities—in which case the head of the bone will



have a sufficiently good blood-supply to obviate risk of necrosis—then by all means reduce the head of the bone and firmly fasten the fragments together by screws or pegs, which, in such a case are better than silver wire, as they keep the broken surfaces more firmly together during passive movements, while silver wire will permit of some movement between the fractured surfaces. With regard to drainage, a good deal will depend upon whether the soft parts around are much injured; and as this is extremely likely to be the case in these rare accidents, I would recommend you to employ drainage, at any rate for a few days. A clean tube cannot do any harm. You will seldom regret inserting one, but may often regret leaving it out. Begin your passive movements as soon as possible, if you wish to obtain a good result. In this case, though the wound is perfectly healed up, and though all the lower motions of the arm are perfect, still there is a limitation in the upward motions, which may, and I have no doubt will, improve in time with practice. In any case the man is now fit to return to his work, which is that of a scavenger in the employ of the Corporation.—*Dublin Journal of Medical Science, May, 1901.*

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## 75.—BULLET WOUNDS OF BONES AND JOINTS.

By J. W. SMITH, M.B., F.R.C.S.,

Surgeon to the Withington Infirmary, Manchester.

[From Mr. J. W. Smith's address, based on his experience in South Africa :]

As regards the long bones, I do not remember having seen any case in which a bullet struck the shaft of a long bone, so as to traverse the medullary cavity, without fracturing it. In some instances, as in the humerus, where, judging from the line of the wound between entry and exit the bullet had merely struck the edge of the shaft, no complete fracture occurred, and the resulting mass of callus would bulge out on one side of the bone only. In cases of fracture my experience is that it was generally oblique in direction, irregular, accompanied in most cases by considerable splintering of the hard bone, and followed by the growth of a very large amount of callus. Sometimes the splintered pieces of bone were carried on by the bullet through the wound of exit of left sticking in the soft parts.

*Case II.*—A farrier in the Boer Irish Brigade was accidentally shot by one of his own company at a distance of three yards on the day we occupied Brandfort. The bullet passed through the crest of the tibia,

drilling an irregular hole, and then shattered the upper end of the fibula, of which only some few splinters remained in the wound of exit, which was as large as the palm of the hand. The edges of the hole in the tibia necrosed, and I had to chisel away the crest at the spot before healing would occur. In another case the middle of the shaft of the ulna was splintered, and in a third the femur. This last did well, but resulted in considerable shortening and a very large mass of callus.

In such cases the wound of exit is of considerable size, and might be supposed to have been caused by a soft-nosed or expanding bullet. I do not think, however, that in the case of a bullet wound involving a bone, with a large wound of exit, the wound has necessarily been inflicted by an expanding bullet. The fragments of bone carried out of the wound have some part in increasing its size, and distortion of the bullet from striking the hard elastic bone also aids. I have removed by operation several ordinary Mauser bullets, which had come in contact with a bone, and found them considerably distorted and twisted. Their coating of nickel is only a thin one, considerably thinner than in our Lee-Netford bullet. That expanding bullets were used there can be no doubt.

From inquiries made of men wounded in many parts and at different times, I failed to gather any substantial or conclusive evidence that explosive bullets—that is, in which the bullet itself contained a charge of explosive material—had been used. The effect of a Mauser bullet striking the cancellous bone at the end of a long bone differs from that produced when it strikes the hard elastic shaft. Here it may drill a hole through without fracture or extensive damage resulting. In such cases the neighbouring joint is often traversed; and in no situation has the present-day smallbore rifle bullet proved more humane than in wounds penetrating a joint. In former days a bullet wound of a large joint inevitably meant amputation or death, often both. The knee-joint, which has the most extensive and complicated of all the synovial membranes, may be taken as an example. In South Africa bullet wounds of the knee-joint have been so universally followed by recovery without septic complications that this result, at first so foreign to one's preconceived ideas, has now ceased to excite surprise, and come to be regarded as a matter of course. At least six such cases came under my care. In two, the bullet passed obliquely through the internal condyle of the femur and the head of the tibia. In another case it passed through the joint from front to back, grooving the outer border of the patella, and passing out behind the semimembranosus, opposite the head of the tibia. In other cases the external condyle and the patellar pouch were involved. All did well. In three of them there was pretty extensive effusion of blood into the joint, but they remained quite aseptic. As



regards other joints, I had one case where the elbow was traversed, the bullet entering on the outer side of the olecranon, on a level with the head of the radius, and issuing on the inner side just below the internal condyle of the humerus ; and a case of the wrist-joint, where the wound of entry was at the styloid process of the ulna and the exit opposite the middle of the metacarpal bone of the thumb.

Whilst on the subject of bones I may mention several cases where the bullet, fired at a long range, had only sufficient momentum to partially penetrate a bone. (1) The bullet was partially embedded in the frontal bone ; the patient was unconscious for some time, and on recovering pulled out the bullet himself. (2) The frontal bone was also the seat ; for several weeks I kept the patient under observation, as he complained of local headache, especially if he went out in the sun. There was some tenderness over the lump on the bone, but he eventually got well. (3) Bullet embedded in the sternum, no splintering. (4) In the fourth right costal cartilage. (5) One inch from the tip of the olecranon. (6) In the head of the fibula. In all these cases it will be noticed that the portion of bone affected was chiefly cancellous, and they were all followed by considerable thickening at the point of puncture.—*British Medical Journal*, April 20, 1901.

## 76.—BULLET WOUNDS OF THE THORAX AND OF BLOOD VESSELS.

By JOHN CHIENE, F.R.C.S. Edin.,

Professor of Surgery in the University of Edinburgh.

[From Mr. Chiene's account of his experiences in South Africa:]

*Injuries of thorax.*—In lung injuries I was struck with the rarity with which the patient said that he spat blood at the time of the accident. Apparently the Mauser or Lee-Metford bullet passes through the lung, searing it and preventing hemorrhage. On the other hand, it must be noted that in many cases there was hæmothorax probably from the intercostals, and most of the surgeons were agreed that if the blood was slowly absorbed, tapping assisted absorption, and there was also general agreement that a rise in temperature was the first indication that absorption had commenced. Possibly this rise is analogous to the rise we see for a day or two after an extensive operation, due to absorption of the products of metabolism. Empyema as a result of lung injuries rarely occurred. I only saw four cases. I saw several cases of penetrating thoracic wounds in which, after careful examination of the apertures of entrance and exit,

I could not but come to the conclusion that the bullet had traversed the heart. I can only express this as my opinion. I earnestly hope that a careful tabulation of all these cases will throw some light on the effects of the Mauser on the viscera, lungs, intestines, heart. In all the cavities I saw wounds which, from my former experience, would have certainly proved fatal.

*Injuries of blood vessels.*—I saw several cases of arterio-venous aneurysm in the South African hospitals. They occurred in the neck and extremities. Much improvement resulted from proximal ligature of the main artery, when the communication was between the carotid artery and internal jugular vein. In the thigh, ligature of the femoral artery did good. In the leg, the aneurysm as a rule was laid open, and the artery and vein ligatured above and below the opening. As far as I could judge, the cases were more allied to aneurysmal varix than varicose aneurysm, but there was not the great dilatation of the vein which is commonly described in such cases. Possibly the cases were too recent, and the venous dilatation occurs at a later date. I had no opportunity of making a dissection of any of those cases of arterio-venous aneurysm in the neck, but the improvement that took place after proximal ligature of the main artery, with the absence of any venous dilatation, made me wonder if the condition could be due to bruising of the artery and vein, and subsequent matting with constriction. No one could avoid noting the number of cases of painful neuritis from bruising of the nerve, the cases of neuritis due to adhesion of the nerves to bone after fracture, and the cases of neuritis due to splinters of bullets lodged in the nerve, without thinking that possibly the same thing might have occurred to arteries and veins lying side by side, and giving rise by matting and constriction to symptoms similar to those met with when there is a communication between the artery and the vein.

One case of arterio-venous aneurysm in the neck made a deep impression on me. The bullet had passed through his neck from side to side, the track of the bullet passing behind the trachea and behind or through the œsophagus. There was a pulsating tumour low down in the neck immediately above the clavicle, so low down that nothing but distal ligature of the carotid could be attempted. He developed enteric fever, and was invalided home. I heard of him recently, in Devonshire, jumping a six-foot wall. No operation had been performed.

I may mention a strange coincidence in relation to arterio-venous aneurysm. Two brother-officers in one regiment were wounded in the same battle. In one the bullet entered on the right side, two inches below the angle of the jaw, the wound of exit being at a corresponding point on the opposite side



of the neck. In the other, the track of the bullet was the same, the course reversed. In both an arterio-venous aneurysm developed near the wound of exit. They were taken off the field in the same ambulance, and brought down to Wynberg. Mr. Makins operated, ligaturing the common carotid in both cases, with very decided improvement. In false aneurysms the sac was laid open, and the artery tied above and below the bleeding point.—*Edinburgh Medical Journal*, January, 1901.

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## 77.—THE TREATMENT OF BURNS IN INFANCY AND CHILDHOOD.

By CHARLES WARRENNE ALLEN, M.D., New York,  
Consulting Dermatologist to the Randall's Island Hospital, &c.

[From Dr. Allen's paper :]

In the milder degrees of burn the lesions are erythematous, but if the surface involved be very extensive the prognosis cannot even then be considered brilliant. Although the pain is not usually very great at first, our first efforts are directed to calming the patient, and then to combatting the effects upon the nervous system, which may be excessive. To meet the indications of sudden vital depression and shock aromatic spirits of ammonia in appropriate doses will generally be found as efficacious as anything. Unless the child is too young for the drug to be used at all, opium in dose proportionate to the age may be employed until a quieting effect upon the system has been secured.

As a local application, I know at the present time of no more promptly and permanently beneficial drug than picric acid for burns of the first and second degrees. Applied in a 1 per cent. watery solution it has the effect of giving almost immediate relief from pain, and healing takes place rapidly under its use. After the burned area has been coated once or twice with the solution a thin layer of absorbent cotton may be applied dry, over this a layer of impervious tissue, then as much cotton as is required for warmth, protection, exclusion of air, and germs, &c., and over this a loose bandage. At subsequent dressings all may be removed excepting the layer next the skin, which may be made wet with the picric solution, and the dressings be applied as before. Not only is the pain greatly diminished by not removing the dressing next the skin, but the danger of outside infection, leading to complications, is decidedly decreased. To secure the same effects I at one time applied tincture of benzoin or aristol in collodion directly to the burned

surface, but this is attended with some pain in itself, while the subsequent cracking and flaking of the collodion may act as an irritant. Dusting the parts with subnitrate of bismuth forms a protecting, antiseptic, and healing dressing, but all powders are apt to cake or harden and form lumps, and after a time cause irritation. Iodoform, which has been such a favourite dressing for so many, has never been so with me. I never employ it all, because of the odour, if anything else will answer as well, and because of its marked tendency to cause local and general poisonous effects. Iodoform dermatitis is not uncommon in the young, and fatal poisoning has been reported from its external use in a child two weeks old. The pain of erythematous areas may be greatly relieved by local baths containing nitrate of potassium or bicarbonate sodium in saturated solution. Where there are raised water blisters these may be carefully cut away at the edge, and a layer of cotton soaked in a saturated solution of potassium chlorate, to which a little glycerine is added, may be applied over the wound, as suggested by Lutand.

In deeper and extensive burns a permanent bath offers one of the best means of securing comfort and warding off a fatal issue. A single limb may be placed in an improvised or especially made long, narrow tub arranged for continuous inflow and outflow of water, or the water can be frequently renewed, keeping the degree of warmth pretty constant. The permanent bath for the entire body as employed for burns with excellent results in the Vienna Hospital can be imitated in the severe burns of infancy, since the comfort of the sufferer repays the pains taken to carry out the method. As the granulations form and tend to exuberate a better cicatrix than otherwise can often be secured by brushing over the surface a strong solution of nitrate of silver or passing over the granulations with a solid stick of silver.

Among soothing remedies the old "carron oil" is the best known and probably most extensively used. It has the advantage of being easy of preparation from ingredients usually at hand or easily obtained. For several years I have been accustomed to add some antiseptic to the lime water and olive oil as they are being stirred into the mayonnaise-like dressing. For this purpose boric acid powder (5 per cent.), or thymol (1 to 1,000), or carbolic acid (1 to 500), or orthoform (1 per cent.), or any one of a number of other antiseptics may be used. In some cases I have used the 3 per cent. methylene blue solution which I have recommended in infantile intertrigo, eczema, &c., also in burns, but although it is somewhat analgesic the results are not to be compared with those from picric acid which I have mentioned. Various soothing



ointments have been advocated, and are made with boric acid or salol, or bismuth may be used. Vaseline seems at times irritating, so that it may be better to employ lanolin and lard in any given case.

One important point, it seems to me, is to refrain from removal of the dressings. If thin layers of gauze, cotton or cheese-cloth come next the wound these need not be taken off, but the application, whatever it may be—solution, oil, or ointment, may be applied over and through the dressings. In this way the chances of subsequent infection are also lessened, and if there was no primary infection the chances of extensive suppuration are reduced to a minimum. The more the atmospheric air is excluded by surrounding the parts with absorbent cotton the less will be the mechanical irritation, while injurious friction, admission of germs, &c., will be guarded against.—*Pediatrics*, March 15, 1901.

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#### 78.—SKIN GRAFTING BY THIERSCHE'S METHOD.

By H. J. PATERSON, F.R.C.S.

[From Mr. Paterson's paper on the Treatment of Septic Wounds:]

The following is a brief account of the method of performing this operation which, after trial of various modifications I have found most satisfactory.

(1) *Preparatory treatment*.—The first step is to get the ulcer clean. The surrounding skin is shaved, and the whole ulcer and surrounding skin thoroughly washed with soap and water. For a day or longer I recommend the use of Sanitas fomentations, frequently changed. They are of much value in getting the ulcer clean and sweet. Twelve hours before the time fixed for the grafting the whole region should be again thoroughly washed, the skin being rubbed with ether, bathed with biniodide of mercury lotion, and enveloped in sterilised lint or gauze wrung out in hot carbolic lotion (1 in 30), and covered with protective and bandaged. At the same time the skin from which the grafts are to be taken should be prepared by shaving, thorough washing with soap and water, then with ether, and finally with biniodide of mercury (1 in 2000) lotion. It is then covered with a dressing similar to that placed on the ulcer. The flexor aspects of the forearms are the most suitable regions from which to take the grafts, the skin there being fine, comparatively free from hairs, and easily kept on the stretch while the grafts are being cut. If more grafts are required than can be obtained from these regions, they may be taken from the extensor aspect of the thighs.

(2) *The performance of the grafting.*—The instruments required are a Volkmann's spoon, two pairs of dissecting forceps, a probe, a pair of scissors, and a knife with which to cut the grafts. I have found the knife known as Thiersch's work admirably. It should be sharpened after each occasion on which it is used. A razor has not sufficient weight to give it the steadiness necessary for cutting large grafts. The patient having been anæsthetised, the ulcer is finally prepared for receiving the grafts. The whole of the superficial flabby part of the granulation tissue on the base of the ulcer is scraped away with a Volkmann's spoon. It is advisable at the same time to scrape away the thin blue epithelial film at the healing margins of the ulcer. The whole surface is then scrubbed with a sterilised nail brush and soap and water. This prepares a level bed upon which to place the grafts. Finally, after free irrigation with hot biniodide lotion, the surface is sponged dry and enveloped in gutta-percha tissue or protective, which has been kept for a few hours in carbolic lotion (1 in 20) and dipped before application in hot saline solution. Firm pressure is then applied by means of a bandage. This arrests the hemorrhage. If this be not effectually done, when the grafts are applied blood will collect between them and the surface of the ulcer, with the result that the grafts will die. Gutta-percha tissue is placed in immediate contact with the ulcer in preference to sponges or gauze, as it does not tend to stick to the granulations, and thus start the bleeding afresh when it is removed. The operator should now again thoroughly disinfect his hands, and for the rest of the operation antiseptic lotions should be avoided, as the chemicals might injure the delicate grafts.

In cutting the grafts the skin must be kept tightly on the stretch in the long axis of the limb by an assistant. This is most important. The operator then stretches and flattens the skin from side to side while cutting the grafts with the knife in his right hand. The grafts should be cut with a somewhat sawing motion, the handle of the knife being manipulated so as to make the blade follow the contour of the limb. In this way grafts may be cut measuring two and a half inches wide, and, if necessary, five inches long, or even longer if the limb be a large one. While cutting the knife should be kept wet with hot saline solution (one teaspoonful of common salt to a pint of hot water), and each graft as it is cut should be placed in a bowl of the same solution at a temperature of from 98 deg. to 100 deg. F. In cutting the grafts care must be taken not to cut too deeply, otherwise scarring will ensue. The part removed should consist of the whole of the horny layer, and the superficial part of the Malpighian layer of the skin, the tops of the papillæ being just removed, so that a surface covered with minute drops



of blood is left, each drop corresponding to a cut papilla. With this precaution there will be absolutely no scarring ; in fact, after a time the same place may be utilised for the providing of other grafts. The part from which the grafts have been taken should then be sponged with biniodide lotion and dressed with antiseptic gauze. This dressing may be left untouched for a couple of weeks, by which time the surface will have usually quite healed.

All the grafts required should be cut, and the part from which they have been taken covered up previous to removing the temporary dressing which has been placed on the ulcer to be grafted. I wish particularly to emphasise this point, as several writers have advised that each graft should be transferred directly it is cut on the knife to the ulcer. If this be done there is great risk of infecting the raw surface from which the grafts have been taken with some of the pus from the ulcer. In this way I myself have seen ulceration ensuing over an area more extensive than that of the ulcer for the cure of which the grafting was undertaken. As additional reasons for cutting all the grafts at once it may be remarked, that a longer time is thus allowed for pressure to be exerted on the ulcer after it has been prepared by scraping, consequently the hemorrhage is more likely to be completely arrested, a condition most essential for success, and that when the grafts are placed in position as they are cut there is much more likelihood of those already placed *in situ* being disturbed by the manipulations incidental to the cutting of further grafts. The vitality of the grafts is effectually preserved for an hour or even more if the temperature of the saline solution be maintained by the addition of hot water. Grafts from a freshly amputated and healthy limb may be used instead of grafts from the patient. This is of especial service if the patient's condition be such as to render a long operation under an anæsthetic inadvisable. The scraping of the ulcer may be accomplished while the patient is under the influence of nitrous oxide gas, and the actual placing of the grafts quietly finished without an anæsthetic. I have several times adopted this procedure with success.

The next step is the placing of the grafts in position. The dressings having been removed, the ulcer is surrounded with sterilised towels. The grafts are removed one by one from the saline solution with a pair of dissecting forceps, and spread out on the ulcer, raw surface undermost. If it be remembered that the grafts always curl up towards the raw surface, no difficulty will be experienced in spreading them out correctly. Round the margin of the ulcer the grafts should overlap the skin for about one-eighth of an inch. Over the base of the ulcer the grafts should be placed in close contact, no intervening islets of

granulation tissue being left. The grafts must be completely uncurled and evenly spread out. For this purpose I have found no instruments answer so well as two pairs of dissecting forceps, aided by a probe. The grafts should be handled with the utmost gentleness, and no air or fluid should be allowed to remain between them and the floor of the ulcer. This is the most tedious and tiring part of the operation, and requires much care and patience. Any attempt at hurrying will probably result in the displacement of some of the grafts already placed in position. If the ulcer be large, or the discharge profuse, it may be advisable to divide it into several smaller ulcers, by placing several broad grafts across it. The intervening ulcers may be covered in at a later period, when the first grafts have become vigorous. Some authorities have advocated stitching the grafts in position. This is quite unnecessary, and would greatly lengthen an already prolonged operation.

Next as to retaining the grafts in position. As already insisted upon, very firm pressure is most essential for ensuring success. The grafts having been placed in position they are covered with strips, two inches wide, of isinglass plaster, each strip being first dipped in hot saline solution, and then firmly applied over the grafted area. Over each of these strips a piece of antiseptic gauze of similar size is placed, and kept in position by a strip of Leslie's strapping of sufficient length to get a firm hold on the skin beyond the ulcer. The strapping is best heated in the flame of a spirit lamp; this makes it stick better, and at the same time sterilises it. Over the plaster is laid a thick layer of wool, and the whole part firmly bandaged with a Domette bandage. If the part grafted be a limb, it should be slightly raised for the first few days. If the ulcer is near a joint, this must be securely fixed by some splint.

(3) *The after treatment.*—The dressing should be left undisturbed for at least four days, but if there be no rise of temperature, no discharge through the dressings, the first dressing may be advantageously postponed until the fifth or sixth day. I prefer to let the gauze and isinglass plaster soak off unaided, by placing the part or if necessary the patient, in a hot bath, having first of all removed the bandage and wool, and loosened the Leslie strapping. In a successful case the result may at first sight appear to be a failure. The grafts are now pinkish or red in appearance, and the granulation tissue below shows through them, so that their presence is not very evident. If the grafts are conspicuously white, we may be certain that they are no longer living. If the grafts are living, the dressings are applied as before, except that the Leslie's strapping may now be dispensed with. After ten days an ordinary dressing of gauze and wool is sufficient.—*St. Bartholomew's Hospital Journal, February, 1901.*



## 79.—LIGATURE OF THE COMMON CAROTID FOR ARTERIAL HEMORRHAGE FROM THE EAR.

By WALTER G. SPENCER, M.B., M.S.Lond., F.R.C.S.,  
Surgeon to the Westminster Hospital, &c.

[From Mr. Spencer's paper. The details of cases, including his own case, treated by ligature of the common carotid, are omitted here :]

Arterial hemorrhage from the ear, otorrhagia, recurring, so as to threaten or cause death, is a rare complication of middle ear disease. In some twenty recorded cases death from hemorrhage has been shown by post-mortem examination to have been caused by ulceration into the internal carotid artery in the carotid canal. These post-mortem examinations give a very unfavourable aspect to the cases, for the disease has been in all far advanced. But where the inflammation has been of quite recent origin, ligature of the carotid has been followed by cessation of the hemorrhage. This success was first obtained by Syme in a classical case, and more recently by Brown and Stewart, as well as in the case to be described by me. I propose in this paper to divide the cases which have occurred into three groups, the first two unfavourable, the third group, if treated early, favourable for the operation. In all the cases to be mentioned the hemorrhage showed itself quite uncontrollable except by compression or ligature of the carotid, ceasing for a time when the patient fainted, but tending to recur at short intervals until death. The blood forced itself out of the ear in spite of plugging, or passed down the Eustachian tube and out by the nose and mouth ; or the blood was swallowed and then vomited, or passed as melæna.

(1) *Cases entirely unfavourable on account of being secondary to pulmonary tuberculosis.*—Some of the cases examined post-mortem would have been in any case fatal, for they had been attacked by rapidly progressive tuberculous caries and necrosis secondary to pulmonary tuberculosis. The septum between the anterior part of the tympanum and the carotid canal was found perforated or destroyed with the formation of sequestra, putting the artery in free communication with the cavity which had replaced the middle ear. The artery itself was separated from its canal and surrounded by pus, its wall thickened and softened, presenting erosions from the jagged sequestra, and one or more perforations at or close to the angle made by the artery in changing from its vertical to its horizontal course. Thus death occurred exceptionally by one sudden and furious hemorrhage ; generally the hemorrhage ceased with the

fainting of the patient, and recurred several times within a few hours, or a day or two before occasioning death. No clot was found in the artery, except in the ligatured cases.

(2) *Cases of chronic ear disease.*—Such cases are now subjected to surgical treatment, and I have not met with any recent case in which arterial hemorrhage has occurred.

(3) *Hemorrhage in cases of recent inflammation.*—In a third group of cases the hemorrhage has arisen in cases of quite recent inflammation, more or less acute. But I have not met with any submitted to post-mortem examination, so that the exact arterial lesions remained undetermined.

*Conclusions.*—It is clear that the third group of cases, viz., those where the hemorrhage has followed on an acute inflammation are the most favourable for the operation. The reported cases have all occurred in children. The most likely source of the bleeding, in the absence of demonstrable evidence, appears to be the twig given off by the internal carotid to the tympanum—ramulus carotico-tympanicus. An ulceration into this small vessel close to its origin would account for the free hemorrhage, and yet a clot would be likely to form should the carotid be tied, for in spite of the retrograde flow from the circle of Willis, the effect of the ligature must be to reduce the blood-pressure in the internal carotid to not more than one-third of its previous amount. It is difficult to suppose that the wall of the artery itself could have been perforated and yet no retrograde hemorrhage have followed the ligature of the common carotid. The other possible sources of the hemorrhage are tympanic branches from the internal maxillary or middle meningeal, or ulceration into some of the branches of these arteries outside the base of the skull; but a consideration of the severity of the hemorrhage in the cases under consideration certainly favours an origin close to the main trunk. The first and second group of cases were all essentially unfavourable on account of the advanced state of the disease. The first group was especially so, because secondary to progressive pulmonary tuberculosis. Yet Broca's case in particular suggests that the operation of ligature of the carotid is advisable as a palliative measure. As to the second group—those of neglected chronic ear disease—the extension of the disease would now be prevented, or should be so. In the advanced cases examined post-mortem the perforations have been all at the same point of the artery, close to its angle. It would seem likely that the perforation has been reached by ulceration travelling back along the carotico-tympanic twig to the wall of the artery itself. Hence it may always be possible, even where hemorrhage supervenes in old-standing disease, that the ulceration may be still confined to the origin of the above branch. When,



however, there is a wide opening into the carotid itself, retrograde hemorrhage is inevitable, and, as seen in Billroth's case, nothing more is to be gained by ligaturing the artery of the opposite side. So free is the anastomosis that no further reduction in the blood-pressure is gained thereby. It is certainly the common carotid which should be selected for ligature, not the internal. The operation is easier and quicker, and the operation wound is further away from the septic focus in the ear or underneath the skull. Besides, it is not certain but that hemorrhage may come, as in Ward's case, from one of the branches of the external carotid, the internal maxillary, or middle meningeal.—*Medical Press and Circular*, May 1, 1901.

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### 80.—BOILS AND CARBUNCLES, AND SOME POINTS IN THEIR TREATMENT.

Birdwood states in the *Indian Medical Gazette* for November, 1900, that bearing in mind the fact that the disease is probably due to a micro-organism, the following points in treatment, not generally noticed, may with advantage be considered: (1) Pay scrupulous attention to personal cleanliness of the patient. Insist, as far as possible, on frequent changes of soiled linen. Pillow-cases may easily become infected when boils are in the neck, and may thus be the source of a crop of boils. (2) When the boil first appears, have the locality thoroughly shaved, then well washed with carbolic lotion, then dried and covered with a soft antiseptic pad. Bathe also with antiseptic lotion night and morning. These measures will tend to check the spread of boils in the neighbourhood. (3) In a household, if one child gets a boil it is advisable to isolate him as far as possible from the other children till his boil is cured. (4) In a case of boils tell the patient to avoid washing the skin with irritating soaps, and do all you can to allay the irritable condition of prickly heat, which is in one way a predisposing cause. (5) When suppuration is established, the discharge should be received on absorbent antiseptic dressings. The patient should be cautioned not to squeeze the boil himself and receive the discharge on to a handkerchief or any piece of linen, which then becomes infected and is often left lying about. (6) Spraying the boil with carbolic lotion (1-in-40) twice a day for ten to fifteen minutes, as recommended by Whitla, will do much good; also small plugs of lint saturated with pure carbolic thrust into the mouths of a carbuncle seem to accelerate suppuration and to allay irritation. (7) Birdwood has found free incision across a tense boil gives considerable

relief, but most will agree with Sir J. Paget that incision of a carbuncle has nothing to recommend it. Mr. Ruston Parker's treatment of excision and scraping in some cases of carbuncle seems to have much to recommend it. It is somewhat similar to the surgical treatment of malignant pustule. Under chloroform there is excision of the walls and free scraping out of the slough, and then the application of pure carbolic acid to the base. The cases in which this treatment is suitable are those cases of indolent chronic carbuncles with much pain and fever, and which, in old men especially, are a source of danger to life. Mr. Ruston Parker has treated sixteen such cases with the best result; not only is much relief given, but the case is quickly cured, and in some instances life has been saved. *Abstract in Therapeutic Gazette, March 15, 1901.*

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## 81.—SIMPLE ASPIRATION IN CERTAIN CHRONIC ABSCESES.

By WILLIAM H. BENNETT, F.R.C.S. Eng.,  
Senior Surgeon to St. George's Hospital, London.

[From a clinical lecture by Mr. Bennett :]

Speaking generally, there is no doubt that the best treatment for chronic tuberculous abscesses is free incision and scraping followed by immediate suturing of the wound, or drainage, as the case may be; but it is extremely difficult to insist with safety upon the use of a routine method of this kind under all circumstances, and there is, I fancy, hardly a single well-tried routine method which is not sometimes amenable to modification with advantage.

I have no desire that you should for one moment suppose that I recommend the adoption of aspiration as a routine method in cases like those described, or that in a general way I think it should supplant other more radical plans. All I wish you to understand is that certain cases of large chronic tuberculous abscesses can be cured in this way, and some, although a cure may not follow the method, may be so modified that the operation finally necessary for their treatment becomes comparatively slight. In abscesses arising from tuberculous disease of lymphatic glands aspiration is not to be recommended under any circumstances, judging, at least, from my own experience, for although I have in this way cured abscesses connected with tuberculous bone disease, &c., I have never, to the best of my belief, effected a cure by the method in lymphatic gland disease. With regard to the details of the treatment



there is little to be said. Absolute surgical cleanliness must, of course, be observed in the preparation of the part to be operated upon and in the condition of the instruments. After this the essential points are (1) to be careful to cease to withdraw the abscess contents the moment any sign of blood shows itself in them ; and (2) not to allow the abscess to regain more than half its former size before aspirating again. This applies not only to the original tapping but also to the recurrent ones. The more slowly the fluid is withdrawn the better.

It may, perhaps, be new to some of you to hear that very large abscesses, especially of the "psoas" kind, sometimes disappear spontaneously. In these days it is unlikely that you may have the chance of seeing any case of the sort, but in former times, when patients suffering from psoas and other large chronic tuberculous abscesses were kept lying on their backs for many weeks or months without any active measures being taken, it was not regarded as a remarkable thing for an abscess to dry up ("inspissate" was the term used) and disappear.

You have without doubt noticed that I have spoken only of simple aspiration without the injection of iodoform or any other germicide. In the commonly used text-books and in other places will be found recommendations, sometimes very strong, for the use of iodoform injections, mainly in the form of emulsion, in all tuberculous abscesses. A fair trial of the drug in this relation led me some time since to the conclusion that no obvious advantage arises from its use. Indeed, I am one of those who rarely use iodoform for any purpose. In operative work I never use it—a fact which is familiar to those who have seen anything of my practice. It may, indeed, be known to some of you that my first admonitions to a house surgeon coming freshly to my work are that he shall be careful about absolute cleanliness and that the use of iodoform shall not be a routine treatment with him. For my own part, I feel bound to say that although I have seen harm come from the use of the drug I have never seen it effect any advantage worthy of mention in operations in any part of the body. In certain stinking or phagedænic sores of a venereal sort it may at times be used with benefit, but in operative work properly conducted it is, in my belief, valueless. On the other hand, I have seen undoubted instances of poisoning from it, and I have seen cases in which, to the best of my judgment, grave complications have arisen solely in consequence of the employment of iodoform. The indiscriminate use of the drug has without doubt vastly diminished of late, but even now by some surgeons, operations, however clean, are rarely completed without its application. For example, the wound in the abdomen after the removal of an

appendix during the quiet stage is by some filled with iodoform ; the wound resulting from the removal of a breast is frequently freely dusted with it ; and I have actually seen the drug freely sprinkled over the parts after an operation for hare-lip. Personally I find it difficult to understand why a drug the germicidal qualities of which cannot be trusted until it has been sterilised in order to kill its own peculiar micro-organisms should be accorded a respect which with some of us exalts it almost to the position of a fetish. Of the evil effects of the drug I could give you sufficient examples were not the matter beyond the scope of the present lecture.

Returning to the main subject which is before us, let me repeat that I wish it to be distinctly understood that I have no desire to advocate the indiscriminate use of aspiration in chronic abscess to the exclusion of the more scientific treatment by free incision and scraping. All that I am anxious to do is to point out that aspiration, in the manner which I have indicated, offers a means of dealing with certain chronic abscesses, especially of the "residual" kind, which can be with safety carried out when the treatment by incision and scraping from the circumstances of the patient, and possibly of the practitioner, is extremely undesirable, if not actually dangerous ; and further, that in many cases the aspiration treatment can be adopted without interfering with the patient's ordinary vocation for a single day—an advantage the importance of which in some cases can hardly be over-rated. It is, moreover, a method which offers but trifling difficulty in the matter of sterilisation and needs no complicated dressings or other troublesome details—facts which to those who have to practise, as some of you may have to do, in circumstances of difficulty in the matter of antiseptics and of hygiene, must be of great moment.—*Lancet*, December 1, 1900.

## 82.—ADENOIDS.

By ROBERT M. LAPSLEY, M.D., Keokuk, Iowa.

When Dr. Meyer, of Copenhagen, Denmark, in 1868, called attention to the growth of adenoid tissue in the vault of the pharynx, he paved the way for treatment for a class of cases that had much to do with improper development of the nose, throat, and ears, and not only this, but the whole system. Mouth-breathing we know to be one of the most vicious of habits of childhood and to interfere much with proper development. I am most anxious to emphasise the local effect on the nose and ears. Dench, in his text-book on diseases of



the ear, states that more than one-half of the cases of diseases of the tympanum are due to adenoid vegetations in the vault of the pharynx. This seems probably true when we examine these patients in childhood where the adenoids are still plainly shown and the connection easily traced.

Granting that fact and considering the importance of hearing, adenoids are among the most important of infantile affections. With all the literature written in regard to adenoids since Meyer's important work and the brilliant results these operations give, we still find these cases largely neglected and still find many children going on to permanent and irreparable deafness, with either no attempt to check it or such futile attempt as the removal of the pharyngeal tonsils only. The percentage of people hard of hearing will likely be greatly lessened as the importance of this subject becomes more generally recognised, and these children are treated properly in the initial stages. "Delays are dangerous," says the child's copy-book, and in this trouble we have no better motto to follow and to impress on the parents. The fact that nature is very kind in diseased conditions in general has led the laity and even the profession to procrastinate in cases of importance and expect the "child to outgrow it." In adenoids, however, even if they outgrow the original trouble, the results will be shown in a deformed and badly-developed face, in poor teeth, a narrowed nose, a chicken breast, and permanent impairment of hearing. The cause of the production of adenoids is a trifle uncertain. That they occur in childhood is generally known, and it is likely that repeated colds increase the amount of lymphoid tissue that is already too abundant in the nasopharynx; and, conversely, the presence of adenoids is the cause of repeated colds, so that a patient with a well-marked case of adenoids has a cold a good part of the time. Mouth-breathing with all its evils is resorted to, and the symptoms are mostly deduced from that. The facial expression is stupid, the normal lines from the *alæ nasi* are changed, the mouth is not closed, the upper teeth are too prominent and irregular; the parents say the child catches cold easily, and that it snores at night, perhaps very loudly, and in many cases the hearing is dull at times, and there may be earache, followed by a discharge either acute or chronic. On looking in the mouth, the pharyngeal tonsils are possibly enlarged, and many examiners have removed these and examined no further, and thereby left the chief offender. The diagnosis is made complete when the finger is introduced back of the soft palate and a soft tumour or tumours are felt, and the finger is withdrawn with blood and mucus on it. The amount of blocking of the post-nasal space can be determined by this examination.

In cases at all marked the prognosis is poor if left alone, but no cases offer a more brilliant hope if operated on at an early date before permanent changes in development are well marked. The irregularities of teeth that are so common are frequently due to this trouble, and efforts at treatment would be much more successful if the original cause was removed before attempts at regulation of the teeth. The teeth, however important, are less so than the ears, because we can put in no false ears to take the place of those destroyed by continued middle-ear disease. Treatment, then, is imperative in a large percentage of the cases, and is almost altogether surgical. The methods of surgical treatment are so well known now that a description is unnecessary. What I particularly want here is to call attention again to the importance of care in examination and to advise as to early removal of adenoids in the interest of bettering the condition of the ears of the rising generation.

I have hardly mentioned the fact that these children are not only stupid in appearance, but really are stupid, and the only salvation from partial or complete idiocy in a certain percentage of cases is early operation. The approved form of operating under a general anæsthetic does not seem best in all cases. The lymphoid tissue is not very sensitive, and in my present practice I sometimes remove small amounts at a sitting for several sittings, until the vault of the pharynx is clear. This is applicable to those patients where for some reason we do not want to resort to general anæsthesia. The principal point to be noticed, then, in all cases with above symptoms and history, and also in cases of ear disease in children, is to carefully examine the nasopharynx and to advise early removal of all lymphoid tissue in the throat.—*Pediatrics*, March 1, 1901.

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### 83.—EXPERIENCES WITH TRACHEOTOMY.

By JOHN ROGERS, JR., M.D.,

Visiting Surgeon, Gouverneur Hospital, New York.

[The details of seven cases and other parts of the paper are omitted here.]

In this series of seven cases there are four laryngotomies and ten tracheotomies without a death which can be ascribed to the operation. In the majority of instances the tracheotomy was performed under difficulties and in great haste, and yet no serious results followed. The most troublesome problem was the struggling and the anæsthetic to prevent it, and the impossibility of placing the patient in the most convenient and



accessible position. The adults suffering from extreme dyspnœa could not breathe at all except while in the sitting or semi-recumbent posture. In two cases ether was foolishly attempted, and owing to the closure of the glottis consequent upon the irritation of the vapour and the struggling (it is probably a combination of both), the operation had to be performed with practically nothing but the sense of touch as a guide. Cocaine in the third adult was a great improvement, and should always be used when the patient is controllable; but children or patients who cannot be kept quiet require chloroform, and in no instance did it cause trouble.

Most of my patients suffered division of the cricoid cartilage, and experience seems to demonstrate that such an operation, if the cannula has to be worn for any length of time, invariably leads to subsequent bad cicatricial contraction, which can be cured only by prolonged intubation. I believe, however, that it can be permanently overcome in every instance, of no matter how long standing, in the manner indicated above.

Laryngotomy, except for tumour, is absolutely useless. The high opening of the respiratory passages, on the other hand, has some distinct elements of safety in its performance. One involuntarily chooses this locality in emergencies, especially in short-necked subjects and in children, and the knife, entering obliquely with the point directed somewhat upward, will be stopped by the broad posterior portion of the cricoid, and thus prevented from wounding the œsophagus. I have several times been conscious of a firm resistance, such as might offer to the further advance of the knife, and believe that it has often prevented serious complications. A low tracheotomy presents only the doubtful advantage of a less probability of subsequent stricture above a long-retained cannula. On the other hand, there is a serious risk of wounding some of the big veins at the upper border of the sternum. I have seen these so dilated in cases of extreme chronic dyspnœa that they were readily palpable. The hemorrhage in any form of tracheotomy is somewhat troublesome, and if a large vein were injured death from asphyxia might occur before the vein could be secured, or by bleeding into the trachea. This, by the way, in ordinary cases, seems to be of surprisingly little moment, and a considerable amount of blood can be aspirated without causing the least harm.

If the stenosis is not chronic, and there is a hope of a speedy cure by a simple tracheotomy and the wearing of a cannula a couple of weeks, and also if a careful dissection is possible, the low operation is preferable. But in chronic cases, in which the stenosis must afterward be overcome, and in cicatricial stenosis (in which, by the way, one can practically guarantee

a cure with intubation and patience), the low operation is exceedingly troublesome. The lower the fistula the more difficult it is to pass an intubation tube by it, and subsequently to keep the lower end of the instrument from slipping out and catching in the wound. This may readily prove a fatal accident unless skilled assistance is at hand. In general, and especially for emergencies and for chronic stenosis which must subsequently be treated by intubation, the high operation is safer and better than the low.

Granulations are often heard of as serious dangers in cases of long-retained cannula. They are generally represented as developing in the trachea from the irritation of the tube, and at its withdrawal more or less completely blocking respiration. This complication cannot be common—at any rate it was not encountered in any of the cases mentioned above, and in several of them the cannula has been worn for quite long periods; in the first case for over four years, with the exception of three comparatively short intervals for intubation. Granulations certainly do develop at the upper angle of a high tracheotomy wound, but do not in themselves give trouble. They are merely a prelude to the subsequent cicatrix, which draws the trachea together in a dome-shaped pouch above the cannula, and this contraction seems to be the worse the nearer the wound is to the vocal cords.

In conclusion, I might remark that it is not always possible to diagnose on the instant the locality of the obstruction, but if a short cannula does not relieve the dyspnœa, a long one should be tried, and the stomach tube is a good substitute.  
—*Medical Record*, April 27, 1901.

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## NERVOUS SYSTEM.

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### 84.—FRACTURE OF THE SPINE.

By WALTER LATHROP, M.D.,

Superintendent of the State Hospital for injured persons  
of the Middle Coal Field of Pennsylvania.

[From Dr. Lathrop's paper :]

From 1 to 3 per cent. of our fractures are those of the spine, and of these (according to Keen) 20 per cent. are dislocations, 20 per cent. are fractures, and 60 per cent. are fracture and



dislocation. Fracture of the dorsolumbar is most common owing to the fixed and rigid dorsal and the movable lumbar vertebræ.

There is a wide difference of opinion as to the best method of treating a condition which at the best is a very serious affair, and in which we have a high mortality. The first thing that suggests itself is the reposition of the fragments, and this can sometimes be done by the use of force—severe extension and counter-extension—under complete anæsthesia. This has been accomplished in some cases of fracture of the dorsal or lumbar region. After succeeding, the patient must still have extension continued, or a plaster jacket applied. A water- or air-bed is absolutely indicated. Any moving of the patient must be done with the greatest care, for the slightest twisting in the injured part may produce sudden and serious symptoms, if not death. The urine must be watched and kept in the most aseptic condition possible, both by frequent and careful catheterising and by irrigating the bladder. I believe extension does little if any good, but can do a great amount of injury. A loose piece of bone, causing no trouble, may be forced by extension into the substance of the cord, and injure it beyond repair. Should extension remove or relieve a piece of bone already pressing on or embedded in the cord, it would be merely a case of good luck. If a plaster jacket be applied after extension, it is certainly harmful, by its pressure upon the injured and paralysed parts. In fact, I believe the results achieved by extension would have been the same had the patients been placed on air-beds and given perfect rest.

As to laminectomy, while the outlook in any case of fractured vertebræ is not encouraging, I firmly believe that where the paralysis is due to pressure on the cord from hemorrhage, or a piece of bone, or a foreign body, we may look for relief by operation. With the aid of the Roentgen rays, a change of opinion has taken place. With this valuable adjunct, the fracture can be definitely seen, and splinters of bone can be located, or the bone pressing on the cord can be demonstrated with little trouble. In these cases of severe crushing injuries, and where we are almost certain that the cord is compressed or being injured by spiculæ of bone, operation is clearly indicated, and, to repeat what was just said, will often bring great relief, and sometimes permanently cure. To my mind nothing is more rational or natural than to remove a fragment or several fragments of bone that are pressing upon the cord. By the open treatment of these cases we can also remove any accumulations of blood, which are fertile sources of pressure and permanent paralysis. We do not hesitate to open the skull for a depressed fracture, or for paralysis, resulting from

supposed rupture of the middle meningeal ; and yet in the cord we have structures that are in most ways identical with the cranial contents ; and why not do likewise for an injury similar in many respects, and no more dangerous to life? The results obtained by various operators who have performed laminectomy for fractured spine have been encouraging. Experience has shown repeatedly that degeneration of the cord is rapid and progressive where pressure from bone, or other cause, is present and continuous. It has also been proven that the loss of blood during operation is not severe, nor does the escape of spinal fluid do any harm. The back is not weakened by the loss of lamina and spinous processes. The number relieved certainly justifies operation. The upper half of the cord, when injured, offers little hope from operation, though benefit has been shown in reported cases by McCosh, Abbe, Munro, and Horsley.

Ordinary shock does not contraindicate operation, for the injury itself is producing the shock, laminectomy relieves the pressure, and consequently raises the body tone and helps restore the body heat. I believe all cases, if operated upon, should have it done within forty-eight hours, if not sooner, when the displacement is marked and diagnosis is almost a certainty. All open injuries of the cord call for active interference, for in these cases we may have infection, foreign bodies, or necrosis of the tissues ; and operation permits careful cleansing, removal of foreign particles, careful drainage, and possible ultimate recovery. Burrell (quoted from Keen). "has analysed 168 cases of fractured spine, and has not only given up his earlier plan of forcing back the fragments, but advocates operation in all cases of fracture within the first twenty-four hours ; including even those in the cervical region"; but I would certainly exclude the cervical from the list of operations promising any success.

To summarise, I would say : (1) In partial lesions we should operate. (2) Where the lumbar region is involved with lesions of the cauda equina, operation offers the best chance for recovery. (3) In fracture of the spinous process, lamina, or entire neural arch, operation is demanded. (4) Should immediate operation not be done, and we wait six to eight weeks, with the result that paralysis of the bladder and bowel continues, with cystitis and severe bed-sores present, we may be sure that nature cannot relieve the case, and an operation is not only indicated, but demanded—*Annals of Surgery*, December, 1900.



## 85.—TWO CASES OF SPINAL TUMOUR WITH OPERATION AND REMOVAL.

By Dr. ALLEN STARR,  
New York.

The author said that five years ago he had been able to collect 145 cases of spinal tumour, in 22 of which operation had been undertaken. In the cases forming the subject of the present paper the symptom, pain, had been very prominent, and this, together with the symptoms of pressure on the cord, had allowed of the diagnosis being made.

*Case 1.*—Mrs. E. W., 35 years of age, had been in good health previous to March, 1899, at which time she had begun to suffer from paroxysms of pain near the heart at night. They were not brought on by exertion, but were much increased by touching a region to the left of the nipple. From September, 1899, to May, 1900, she had been treated by many physicians for angina pectoris, hysteria, and other disorders. Nitro-glycerine had always intensified the pain. On May 10 Dr. Theodore Janeway had examined her, and found her in an extremely nervous condition, and suffering from constant pain. The left knee-jerk was exaggerated. Over the left side of the dorsal spine was extreme sensitiveness from the first to the eighth dorsal spine, and over the corresponding intercostal nerves at the angles of the ribs. There was no affection of the arms, and the internal organs were normal. When examined by Dr. Starr, on October 20, she was suffering much from pain at the level of the fifth and sixth intercostal nerves, much more marked on the left side. There was very marked tenderness over the dorsal region from the first to the seventh dorsal spine. A condition of partial anæsthesia was found on the trunk, and total anæsthesia in the legs. Her legs were quite powerless, but there was no atrophy of the muscles. Ankle-clonus was present on both sides, and both limbs were cold, blue, and œdematous. She had recently been unable to control the sphincters. Dr. Janeway had made a diagnosis of tumour of the spinal cord at the fifth dorsal segment. On October 22 she had been operated upon by Dr. McCosh at the Presbyterian Hospital. On dividing the dura an extremely œdematous state of the pia was observed, with one white plaque lying upon it. The cord was smaller and whiter than normal, and was not pulsating. No tumour was found. Three days later the wound was enlarged upward, and the dura found to pulsate freely at the upper level, but not lower down. A tumour,  $1\frac{1}{8}$  inches in length, lay upon the cord. It was oval, had a distinct capsule, and was removed *en masse* without difficulty. Subsequent examination showed it to be a fibroma. The cord had been reduced to about one-half of its diameter beneath the tumour. No attempt was made by nature to heal the first operation wound, and in spite of great care an extensive bed-sore developed over the hip. In the second week after operation the constricted feeling became less marked. The operation wound healed very slowly. In the fourth week after the

operation the woman had constant fever, probably because of the extensive bed-sores. The spinal incision healed about this time, but she died a few days later. The autopsy showed a softened condition of the cord opposite the exit of the second dorsal nerve from the dura, and the fifth and fourth dorsal nerves could be traced into this area. Owing to the rudimentary condition of the spine of the third cervical vertebra, an error of one vertebra had been made in the count at the time of operation.

The case seemed to emphasise the fact that there should be no delay in operating for spinal tumour after the diagnosis had been reached. In this case the delay had arisen from an effort to try the effect of anti-syphilitic treatment, the husband being known to be syphilitic. Bed-sores had developed before the operation, and had continued to extend in spite of it, and had eventually caused death from sepsis. Gumma of the spinal cord is quite rare, only 26 such cases having been found in a series of 400 cases. The tumour had been found about two inches higher than had been anticipated. Reed's table had been used as a guide at the first operation, but, according to Bruns, the operation should be done two segments above the upper limit of pain. This advice was nearer the truth in the present case. The level of the pain was about eight inches lower than the level of the tumour; hence in operating for spinal tumour the level of the cord should be exposed at least four inches higher than the level of the spinal nerve in which pain is found.

*Case 2.*—Mrs. K., 46 years of age, had been in good health until May, 1900, when, after a slight injury, she had been delivered of a dead child. Soon afterward she had begun to suffer pain over the left hip, and this pain had extended down to the left knee. It had caused insomnia and progressive loss of health. In September she had noted numbness of the left foot. On October 16, on admission to the Presbyterian Hospital, she was pale and feeble, and seemed to be suffering from paroxysms of pain over the left trochanter, and that side of the sacrum. There was a drop-foot due to paralysis of the peronei and anterior tibial muscles. The bladder required catheterisation, and the rectum had to be emptied by enema. There was an area of anæsthesia down the back of the left thigh and leg, and a smaller area was found on the right side. Under mixed treatment the paralysis extended and the pain became more severe. An area of tenderness to pressure was found over the second, third, and fourth lumbar vertebræ, and pressure here aggravated the pain in the hip. It seemed probable from these facts that there was a tumour pressing on the cauda equina, and extending as high as the level of the exit of the second lumbar nerve. The functions of the sacral nerves and last lumbar nerve were evidently affected on the left side. A diagnosis of a cauda lesion was reached because of the level of the pain. On November 15 Dr. McCosh removed the spines and arches of the second, third, and fourth lumbar vertebræ. Dissection showed a tumour involving both the soft and hard tissues of this region. The spines and arches had been eroded by



the tumour, which subsequently proved to be an endothelioma. This tumour had invaded the spinal canal, and produced pressure on the dura. The patient was in a critical condition for two days after operation, but since then had improved rapidly, and had had no pain since the operation. A considerable degree of atrophy had developed in both peronei. The wound had healed perfectly, and there was no evidence of recurrence. It was reasonable to hope for recovery unless there should be speedy recurrence.

Out of 145 cases of spinal tumour that Dr. Starr had collected, the history had been fairly clear in 122. Of 76 cases an operation should have been feasible, and, according to the pathological report, in 75 per cent. the tumours could have been removed.—*Journal of Nervous and Mental Disease, March, 1901.*

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## ALIMENTARY CANAL.

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### 86.—ABDOMINAL SECTION FOR MULTIPLE GUNSHOT WOUNDS OF THE ABDOMEN.

By FRANK MARTIN, M.D.,

Baltimore, Maryland ; Associate Professor of Clinical Surgery, University of Maryland.

[Dr. Martin reports a case in a man aged 24 years where there were perforations of liver, gall-bladder, hepatic flexure of colon, two of the small intestines, one of rectum (deep in pelvis), with active and excessive hemorrhage. The case made a good recovery. The following is taken from the remarks :]

I report this case, first, because it is of interest as illustrating one in which a very wide area was involved in the damage done by the gunshot wounds to the abdominal viscera. The upper, middle, and lower abdomen were involved, and thus called for many repairs, thereby necessarily demanding a somewhat prolonged operation. Secondly, it is one of interest in view of the great length of time there was between the perforations and the operation, almost a full day, twenty-one hours, and in addition a long railroad journey with hemorrhage going on within the abdomen all the while, and yet recovery ensued. I take it that it should be classed among the rarer cases of recovery. All observation has shown that the chances of recovery rapidly diminish as the hours go by, and it is

generally the case that the patient comparatively seldom survives a laparotomy done a half day or more subsequent to the shooting, as peritonitis is apt to be fully developed and is rarely cut short. This, however, does not argue against operative interference even though late, but rather argues the wisdom of offering help by an operation at the earliest possible moment. Thirdly, it is of interest from the extent of the opening of the abdomen made necessary by the widely distributed areas of damage. First hemorrhage, which almost proved fatal, had to be sought for and arrested; this was found in the bottom of the pelvis as well as in the upper quadrant of the abdomen, and naturally called for an exceptionally large opening. Then, too, the other lesions were found scattered from the top of the abdomen to the bottom, and some would probably have been overlooked but for this, and a fatal issue the result. Fourthly, it is of interest as showing the immense advantage transfusion of salt solution may play in such cases. No class of injuries has interested surgeons more of late than gunshot injuries of the abdomen, and in no other class has the fatality been so great, and even now it is exceptionally high; but a few years ago (ten or fifteen), surgeons generally were content to wait upon them, keep them quiet and at rest, administer opium, and watch for peritonitis to develop. In other words, they abstained from operating. The death-rate was so high that radical steps became necessary.

To-day, the question is not whether the abdomen should be opened and the injuries repaired surgically,—that has long since been settled in the affirmative,—but the question of moment and importance is: How soon shall we operate? Shall we wait and delay the operation because the patient is suffering from shock? The answer to the former question is: Operate at the soonest possible moment, just so soon as a careful preparation for an aseptic operation can be made. The earlier the better. Each hour of delay counts against the patient. The latter question must be answered in the negative. The great mortality after gunshot wounds of the abdomen is due to septic peritonitis and hemorrhage, and the occurrence of these two conditions in producing and continuing the shock, so the sooner operation is undertaken, the sooner the cause for the shock will be removed, and therefore, the greater will be your chances of saving your patient.

Senn's hydrogen gas for diagnostic purposes is no longer needed. The abdomen is not opened first and the diagnosis made afterwards. It is stated that in perhaps 3 to 5 per cent. of gunshot wounds of the peritoneal cavity the viscera have escaped injury. The probabilities, however, in any given case,



that the intestines or some vessel of moment have been injured, are so great that you should assume it to be the case, and act accordingly. It is known that when the intestines have escaped injury, the direction of the wound was anteroposterior. Where the ball has gone from side to side, intestinal injury is almost positive, and the small intestines are said to be damaged four times as often as the large. Then follow in order of frequency the liver, the stomach, the kidneys. The surgical reports from the recent wars would indicate that the mortality from the abdominal wounds produced by the new bullet will be but little less in the future than it has been in the past.

The treatment of to-day conceded by most surgeons is entirely surgical, just as is the treatment of perforations of the stomach and intestines from other causes, namely, gastric ulcers, typhoid perforations, appendicitis or what not, is surgical; for under the expectant treatment, recovery too seldom occurs, and when it does occur, the diagnosis is necessarily doubtful. When surgical intervention is delayed, the operation is done not only for the repairs of the injured viscera, but for the relief in nearly all cases of septic peritonitis, and the steps in the operation are carried out on the same principles as for septic peritonitis produced by other causes.—*Annals of Surgery*, 1901, p. 311.

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## 87.—CONTUSIONS OF THE ABDOMEN.

By CHARLES L. SCUDDER, M.D.,

Boston; Surgeon to Out-Patients at the Massachusetts General Hospital.

[From Dr. Scudder's paper:]

Aside from the signs of lesions of individual viscera, there are certain general conditions which may be present and which demand consideration in order to intelligently determine whether operation is wise or not. These are the conditions of shock, hemorrhage, and the extravasation of visceral contents causing peritonitis. The presence or absence of these three conditions will be determined by a proper interpretation of the pulse, temperature and respiration, by the existence and character of vomiting, nausea, pain, tenderness, rigidity and distension, by a knowledge of micturition and intestinal peristalsis, and last, but of utmost importance, by a true appreciation of the facies of the individual.

*Shock*.—Death has followed a blow upon the abdomen with no discoverable pathological lesions in the abdominal cavity.

Death from pure shock ! Almost every abdominal contusion of moment is associated with some degree of shock, whether a visceral lesion is present or not. Hemorrhage exists in many cases of abdominal contusion. Hemorrhage itself, even though not alarming, produces shock. It is very important, and at times most difficult, to discover the etiological factors of the shock which is present in a given case. Shock is very variable in individuals suffering from the same lesion. The temperament of the individual (seen, for instance, in the apprehension of a fatal issue), is often a factor in determining the degree of shock. The nationality of the individual influences materially the expressions of shock. These must all be taken into account. Shock will be manifested by a loss of consciousness. The unconsciousness may be more or less profound, dependent upon the degree of shock. Pallor and perspiration of the face, low temperature, vomiting and nausea, chilliness and coldness of the extremities ; a small, irregular compressionable and rapid pulse beat ; superficial respiration ; anuria ; less than the normal reaction to stimulation. These are evidences of shock. They all may be present, many may be absent. A progressive improvement from the conditions of shock is valuable evidence that the patient may bear operative measures. Ordinary shock is recovered from within about three hours of the injury. Signs of reaction appear then and are soon well established. If recovery is somewhat delayed beyond this period there is presumptive evidence of a grave intra-abdominal lesion. Increasing shock after partial recovery from primary shock should suggest intra-abdominal hemorrhage or visceral rupture. Damaged tissues may be giving way. An absence of shock does not mean an absence of a serious lesion. Operation is absolutely contraindicated in profound and continued shock.

*Hemorrhage.*—Hemorrhage within the abdomen is serious because of the loss in volume of the blood. In intra-abdominal hemorrhage the blood gravitates. Renal hemorrhage may be retroperitoneal. Dulness in the loin or loins, which changes to resonance as the patient is turned to the opposite side, is suggestive of free fluid blood within the abdomen, if other signs of hemorrhage be present. In hemorrhage there may be shock, together with restlessness, thirst and a sighing respiration. Vomiting of blood may mean injury to the stomach or duodenum. Collapse with sudden exsanguination means rupture of a large vessel or extensive rupture of the liver or the spleen. Reynier and Quenu have demonstrated that a slight rise of temperature is not incompatible with hemorrhage. The pulse, of course, is variable. If there is shock the pulse will be rapid and feeble. It may be slow rather than rapid, if the depression is extreme. An increasing pulse rate with a low or subnormal temperature,



means hemorrhage, and demands immediate surgical interference. The temperature is usually subnormal during the initial shock, particularly if the shock is considerable. The gradual rise of temperature to the normal point, associated with a falling pulse rate, denotes a favourable condition. A rise of temperature following an abdominal contusion usually means infection. The height of the rise in the temperature is not indicative of the severity or the extent of the infection.

*Pain.*—Shock diminishes the consciousness of pain. As the initial shock subsides, evidences of pain may appear. When pain is dependent upon hemorrhage, other signs of hemorrhage will be present. Pain of importance is evident in the face of the individual. The exact meaning of pain is often difficult to determine. Persistent local pain is important. In intestinal injuries it often locates the lesion. Tenderness is usually general at first in an intra-abdominal lesion, but it soon becomes localised. Honest tenderness, that is, real tenderness, unbiased by the personal equation, coupled with pain, are the two most valuable signs pointing to the localisation of intra-abdominal lesions. Vomiting is very generally an early sign of shock. A simple emptying of the stomach once should not cause alarm. Constant and persistent vomiting means a visceral lesion. Unprovoked vomiting, a regurgitation, means peritonitis. Vomiting without other evidences of shock is significant, and vomiting which reappears after it has once ceased should cause concern. Distension, with other signs of peritonitis, suggests serious infection. Rigidity of the abdominal muscles indicates peritoneal involvement. Rigidity of the abdominal muscles and tenderness mean peritonitis. Pain, rigidity, tenderness together are unmistakable evidences of peritonitis.

It will thus be seen that the problem presented to the surgeon when he meets a case of contusion of the abdomen is definite in its demands, but often difficult of solution. These questions must be answered: Is operation necessary? Are there lesions of viscera? Two classes of cases should not be operated upon at first: (1) That class in which little or no shock is present; in which there are absolutely no localising signs, and (2) that class in which profound shock, amounting perhaps to collapse, exists. Immediate operation is demanded in persistent moderate shock, with or without localising signs. Immediate operation is demanded in cases of progressing hemorrhage. Immediate operation is demanded in cases of peritoneal infection. Having determined that definite lesions exist in any of the viscera, the form of treatment to be adopted is pretty generally accepted, and has been indicated under consideration of each organ.—*Boston Medical and Surgical Journal*, May 2, 1901.

## 88.—SYPHILITIC DISEASES OF THE TONGUE.

By CHRISTOPHER HEATH, F.R.C.S.,

Consulting Surgeon to the University College Hospital, London.

[From Mr. Heath's lecture :]

*Syphilitic ulceration of the tongue.* — We may have a condition, namely, inflammation going on to ulceration, that may show itself in various ways. It generally is a multiple ulceration, making grooves in the side of the tongue, not affecting very much the dorsum, but involving fairly deeply the sides and tip of the organ. That process may of course extend a good deal into the tissue of the tongue, and you occasionally find a true glossitis or inflammation of the tongue due to the syphilitic poison. We have, then, this ulceration, and we may have either with or after the ulceration a very considerable amount of chronic thickening of the tongue—a thickening of perhaps only one side of the tongue, and of a very chronic character. This thickening of the tongue is apt to alarm a patient, who immediately begins to think that he is suffering from a malignant disease.

The treatment for all forms of secondary syphilis of the tongue, I am quite sure, is the same, and that treatment is the administration of mercury. There is no use whatsoever in attempting to treat secondary syphilis of the tongue with potassium iodide ; you must give the patient mercury, and you must push the mercury not merely constitutionally, but locally, if you wish to make a complete cure. I am in the habit of using a mercurial mouth-wash, beginning with a strength of gr.  $\frac{1}{4}$  of perchloride of mercury to the ounce, that is to say, about 1 in 2,000, and this strength I gradually increase. My usual prescription is perchloride of mercury, gr.  $\frac{1}{4}$ , with 2 drachms of honey made up to an ounce of water. I tell the patient to take a mouthful of this, and to have his watch out and see that he holds the wash in his mouth for five minutes by the watch, as five minutes is a longer time than people think. It is quite useless to merely tell a patient to use a mouth-wash ; then he simply gargles a little and spits the lotion out, and that is of no use at all. The tongue must be “pickled,” and if the patient takes his watch out and breathes through his nose, and holds the lotion in his mouth for five minutes two or three times a day, it is astonishing how these tongues improve. Mercury must be given to the patient at the same time internally, and there are many ways of giving it. I have myself come to the conclusion that there is no more satisfactory way of giving mercury than by inunction, that is to say, by rubbing it in overnight when the patient is



going to bed. The patient should rub the mercury into the inner part of the thighs or the front of the belly, beginning with half a drachm of the blue ointment and going on to a drachm. This rubbing may be continued for many nights together without producing irritation, but if that occurs, then the site of the rubbing should be shifted to the lower part of the abdomen. One great advantage of prescribing mercury in this manner is that it gets into the system very gradually, and that the patient is not affected in the mouth. The patient bears the drug better, and it is a more satisfactory plan than giving mercury by the mouth. You must warn the patient that, though he may have a daily warm bath to cleanse himself, he should not use soap except once a week, when the ointment may be washed away. I generally recommend a man to wear pyjamas, and to wear the same pyjamas every night for a fortnight or three weeks, in that way securing the entrance of mercury into the system without any inconvenience. It is very important that you should never salivate a patient—that is a thing of the past; to avoid salivation it is the custom at Aix la Chapelle to use an alum mouth-wash. Every patient there carries about with him this mouth-wash, and he is continually rinsing out his mouth.

*Late secondary or early tertiary?*—Now let me draw your attention to the fact that there are cases of syphilitic tongue on the borderland between the secondary and tertiary stages; I mean cases which are not actually gummatous, but which are instances of late ulceration, and these cases are satisfactorily treated in the way I have indicated.

*Tertiary syphilis of the tongue.*—We will now consider tertiary syphilis of the tongue, of which we have such a remarkable example in the case of the woman who came into the hospital early in October. She is a middle-aged woman who had got what no one could doubt was a well-marked ulcerated gumma of the tongue. She happened to come in at the time of the October examinations at the colleges, and I sent her down as one of the cases. I believe there was only one opinion expressed, and that was that it was a case of well-marked gumma of the tongue. This gumma, you will remember, was in the ulcerated condition, and you must bear in mind that before it was ulcerated there was a hard mass to be noticed involving nearly the whole of the right side of the tongue, but in her case there was something more, for all through the tongue there were little nodules of syphilitic deposit. It was one of those cases of multiple gummata which are not commonly seen, the gummata spreading through the substance of the tongue. I ought to add that she had an enlarged gland under the chin. We began with moderate doses of potassium iodide, giving it

combined with ammonia and bark. She was put upon 10-grain doses, and seemed to be improving, and then we increased the dose to 20 and finally to 30 gr., but we noticed that she did not further improve. In consequence of a tendency to salivation, I was obliged to stop the mercurial mouth-wash, and give her a lotion containing myrrh. What I generally order is just sufficient tincture of myrrh poured into warm water to make it milky. After some little time I felt quite sure, if there was not an epitheliomatous condition present, that there ought to be, because the patient did not improve. It was clear that it would be better for her to get rid of the tongue than to allow the organ to continue in that condition, and the patient herself was only too glad to consent. A fortnight ago, therefore, I took away the whole tongue. Mr. Curtis found a very distinct mass of epithelioma, a small amount certainly, but distinctly epitheliomatous. A specimen has been placed under the microscope for you to see to-day, and you can recognise there what no one can doubt to be epithelioma. It is clear, then, that this patient, having gone through a prolonged course of ulceration of the tongue, eventually developed epithelioma, and I am glad, therefore, that I have removed the entire tongue. I hope I have removed the whole of the disease, but though I went close to the epiglottis, I am afraid she will have further trouble in connection with the glands in the chin. Given any prolonged irritation, you have the probability that epithelioma will grow, and that is exactly what has happened in the case of this woman. It is this sort of case which is brought to you with a history that the patient has had a sore tongue, and has been under judicious medical care, with the result that, though the tongue has improved up to a certain point under potassium iodide, yet it has never got well. These cases of a double kind, if one may so call them, which have epithelioma grafted on to a gumma, may, and do, for a short time improve under the influence of potassium iodide, for no doubt the ordinary small-celled inflammatory exudation becomes absorbed, and things become improved for a time; but potassium iodide has no effect whatsoever on epithelioma, and the tumour goes on growing, eventually resulting in some operation having to be done if the patient's life is to be prolonged.

The treatment of a gummatous condition I have already indicated, full doses of potassium iodide with the addition, as a rule, of a mercurial mouth-wash. It is astonishing what a quantity of potassium iodide some of these patients will bear, taking sometimes 30 to 40 grs. three times a day, with the result that eventually a thorough healing may occur.—*British Medical Journal*, December 22, 1900.



## 89.—A SERIES OF ELEVEN OPERATIONS FOR PERFORATED GASTRIC ULCER.

By G. H. HUME, D.C.L. Durh., M.D., F.R.C.S. Edin.,  
Surgeon to the Royal Infirmary, Newcastle-on-Tyne.

[The details of the eleven cases, set out in tabular form, have had to be omitted here. Six recovered.]

The eleven cases have been operated upon during the past seven years, and form a complete list of all the cases of acute perforation and gastric ulcer on which I have operated. The results agree in the main with the most recently published statistics, and illustrate both the recent improvement in results and the dependence of this improvement on earlier opportunity of operating. A few remarks suggested by the cases may be arranged under the following heads.

*Diagnosis.*—In only one of the cases (Case 9) was there doubt when first seen as to the occurrence of perforation. The patient was seen in the night, and had quite recovered from the collapse which marked the beginning of the illness. She was left till morning, when the signs of commencing peritonitis were too evident to admit of further delay, and she was operated on with good result. In another case (Case 3) there was no doubt as to the origin of the general peritonitis, which was fully developed. There was a history of a previous attack of peritonitis; the present illness was said to have begun with pain and tension in the right iliac region, and it was uncertain which of the two—a perforated appendix or perforated gastric ulcer—was the source of infection. An exploration of the region of the appendix was first made with negative result; then the epigastric region was opened, and the perforation was found. As a rule it is not difficult to make an early diagnosis. The past history of stomach trouble, the sudden and severe pain with collapse, the epigastric tenderness and rigidity, with soon a slight rise of temperature, are indications enough to justify exploration. Vomiting occurred once or twice in all my cases, and at least one retching was continuous. When this occurs it is of evil import.

*Interval since rupture.*—In three cases the interval was from 43 to 48 hours, and all these cases died. In another fatal case the interval between the occurrence of perforation and operation was the shortest in the list—namely, five and a quarter hours. In this case general peritonitis developed rapidly, and was attended with great suffering. The course of this case, I think, is explained by the fact that shortly after the beginning of the attack a large dose of castor oil was administered. In the cases

that recovered the interval ranged from six to 28 hours. In the instance in which 28 hours had elapsed the rupture had taken place when the stomach was empty, absolutely nothing by the mouth was allowed from the time of its occurrence, and at the operation there was so little extravasated fluid that only slight sponging was required.

*Position and treatment of the ulcer.*—In only one instance was the perforated ulcer found on the posterior wall of the stomach. It was found by turning up the stomach and tearing through the omentum. The treatment of the ulcer was the same in all cases. The edges were not excised, but the opening was closed by a double set of Lembert stitches of catgut. A piece of omentum was laid over the site and fixed where this could be done.

*Treatment of the peritoneal cavity.*—The treatment of the peritoneal cavity has depended on the amount of extravasated stomach contents and general effusion. In Case 5, in which perforation had taken place soon after a meal and  $11\frac{1}{2}$  hours before operation, the abdomen was full of grumous fluid with particles of food, and the favourable result was thought to be due to the thoroughness with which the cavity was flushed out and drained. In three cases again the cavity was sponged dry where fluid existed, and no flushing or drainage used. This is no doubt the preferable treatment, and should be followed where there is only limited and local extravasation.—*Lancet*, November 10, 1900.

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## 90.—SURGICAL TREATMENT OF GASTRIC HEMORRHAGE.

By WILLIAM L. RODMAN, M.D.,

Professor of the Principles of Surgery and Clinical Surgery,  
Medico-Chirurgical College, Philadelphia, &c.

[From Dr. Rodman's paper. Otherwise uncontrollable gastric hemorrhage is no doubt meant here.]

The following operative measures have been carried out in treating gastric hemorrhage : (1) Partial gastrectomy : pylorotomy, according to location of ulcer ; (2) gastro-enterostomy ; (3) gastrotomy ; (4) excision ; (5) excision of ulcer with ligation of artery ; (6) ligation *en masse* of mucous membrane ; (7) suture of ulcer ; (8) cauterisation ; (9) pyloroplasty ; (10) gastrorrhaphy ; (11) ligation of principal artery ; (12) curettage of ulcer with and without cauterisation.



*Pylorectomy.*—As in non-perforating ulcer without hemorrhage, pylorectomy, if at the pylorus, or partial gastrectomy in ulcers situated elsewhere, is the ideal operation in hemorrhagic cases. The presence of hemorrhage and probability of perforation in such cases are two additional and cogent reasons for a complete operation if conditions are favourable. If the ulcer is situated either at the pylorus, or upon the anterior gastric wall, and is reasonably free from adhesions, it should be removed. One is justified in undertaking a radical operation, even in the face of moderate adhesions, on account of the actual danger from hemorrhage and the probability of subsequent perforation. Of the ten cases thus treated, eight recovered promptly, giving a mortality of 20 per cent.

*Gastro-enterostomy.*—Up to the present, this has been the most generally practised operation for open ulcer, and judging from the opinions expressed in a large number of personal communications received from representative American and foreign surgeons, it is likely to remain so for a time. It has also been carried out in a greater number of hemorrhagic cases than any other procedure. Questionable as its choice may be in certain well-selected hemorrhagic and non-hemorrhagic cases, there are many reasons why it is likely to retain its popularity as the preferable method in a majority of instances of bleeding ulcer. (1) One can never be certain that the case in hand is not one of multiple ulcers, as we may expect several ulcerated points once in every five cases—perhaps more frequently. In any case where multiple ulcers are suspected, gastro-enterostomy should be selected, putting, as it does, the stomach at rest, and thereby leading to the formation of a firm clot in the bleeding vessel, and to the subsequent healing of all the ulcers. (2) It has been found in many cases to be a somewhat difficult procedure to locate the bleeding even after gastrotomy has been done and the entire mucous membrane carefully inspected—with and without the aid of a suitable electric light—and in at least seven instances it has been altogether impossible to discover the open vessel. This is what might be expected, when we remember that it is at times impossible to locate the bleeding point at autopsy. M. Savariaud records in his very complete and valuable thesis, reports of 55 autopsies following sudden death from gastric hemorrhage, and in four of them it was impossible, after the most careful examination, to locate the source of the hemorrhage. The cases operated on have, on account of the delay occasioned by looking for, and inability to find, the bleeding vessel, usually been fatal. Such failures are less frequent now than formerly, it is true, for of 13 gastro-enterostomies for hemorrhage there have been only three deaths.

*Gastrotomy*, or simply cutting into the stomach, can not control hemorrhage, and is only done as a preliminary to something else, as excision of the ulcer, suture, ligation *en masse*, &c. In the seven cases in which it and nothing else was done because the bleeding could not be located, six died, or a mortality of 85.7 per cent.

*Excision* of the ulcer has been done three times, with two recoveries and one death.

*Excision of ulcer with ligation of the principal artery* has been done once, and then successfully, by Roux, of Lausanne. Suture of the bleeding ulcer with catgut has been practised in five cases, with two deaths, or a mortality of 40 per cent.

*Ligation*.—Treatment of the ulcer by ligation of the mucous membrane *en masse* has been practised three times—once by Cazin and twice by Andrews. All were successful. Andrews draws all of the coats of the stomach forward, so as to make a decided cone, and then ligates. Andrews and Eisendrath afterwards experimented on dogs, and found this practice dangerous on account of too great sloughing, unless there was careful extrinsic suturing of the stomach-wall at the same time. They therefore advise the placing of Lembert's sutures on the outside of the stomach over the ligated portion. Time is lost in doing this, and it may be just as well to make a less decided cone before ligating.

*Simple gastrotomy with cauterisation*.—This has been practised but once, and then successfully. The cautery has been used in a number of other cases, but the wound in the stomach has been closed by a gastro-enterostomy, as in Küster's two successful cases, and as in pyloroplasty in three successful cases operated by Armstrong.

*Pyloroplasty*.—Though a rival of gastro-enterostomy—declining in favour, it is true, but still a rival in the treatment of open ulcers and the stenosis following them—pyloroplasty can in no sense be considered as rational an operation for hemorrhage. There have been 11 pyloroplasties, with three deaths, giving a mortality of 27.2 per cent. It should be noted, however, that three of the successful cases were cauterised with the thermocautery, and the good result was probably more due to this than the subsequent pyloroplasty.

*Gastrorrhaphy* has even less to recommend it than pyloroplasty, and has been followed by death in two of the three cases in which it has been practised—mortality 66.6 per cent.

*Curettage*, either with or without cauterisation, would seem, *a priori*, to be unsafe on account of the danger of subsequent perforation. This actually happened on the eighth day after operation in the only case thus treated—Mayo Robson's.



*Ligation of the principal arteries.*—If, as we have seen, the bleeding vessel and ulcer can not always be found, even after the stomach is opened, how can it be possible to locate it beforehand? Until the source of the hemorrhage is known one could scarcely tell which vessel to ligate, and at best it would be nothing more than a guess based upon probabilities anatomic and pathologic. We know, of course, that hemorrhage from the coronary and splenic arteries occurs more frequently than it does from other vessels; but the first is difficult to tie, and the second, which bleeds three times as often, is so situated as to be, under the circumstances, almost inaccessible. It has, however, been tied once by Korte, though unsuccessfully. Savariaud has found it both practicable and safe in dogs, and therefore advises it in man, describing how it should be done.

Overlooking, for the present, the impossibility already pointed out of knowing definitely the source of the hemorrhage, and the additional objection to ligation on account of its difficulty, I should still be opposed to ligation in continuity upon general principles. The anastomoses of the blood-vessels of the stomach are so free that a recurrence of the bleeding from the distal end of the affected vessel would be probable, if not certain. Roux's plan of ligating both ends of the bleeding vessel would be the only safe procedure. Ligation of the bleeding vessel in situ, which, theoretically, looks simple enough, has been attempted in several cases with failure to arrest the hemorrhage in every instance. The mucous membrane is so friable, tears so easily, and bleeds so freely that hemorrhage is more likely to be increased rather than lessened by an attempt to tie the open vessel, as is done in external hemorrhage with firmer and different kind of tissues to deal with.—*Journal of the American Medical Association*, December 1, 1900.

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## 91.—ON HOUR-GLASS STOMACH.

By B. G. A. MOYNIHAN, M.S. Lond., F.R.C.S. Eng.,  
Assistant Surgeon to the Leeds General Infirmary.

[From Mr. Moynihan's paper, in which six cases operated upon by himself are related :]

Acquired hour-glass stomach may be caused by (1) perigastric adhesions ; (2) ulcer with local perforation and anchoring to the anterior abdominal wall ; (3) circular ulcer, with subsequent cicatricial contraction and induration ; and (4) cancer.

(1) *Perigastric adhesions.*—These may be the result of many causes ; among them being perforation of a gastric ulcer. The

adhesion chiefly concerned in producing the condition may be a thick cord running downwards from the liver and sharply pressing into the anterior wall of the stomach. In one of Mr. Mayo Robson's cases such an adhesion caused the cardiac end of an hour-glass stomach to be itself divided into two, thus forming a "trifid stomach."

(2) *Ulcer with local perforation and anchoring of the stomach to the anterior abdominal wall.*—In this form a chronic ulcer of the anterior wall of the stomach makes its way in languid fashion through the coats of the organ. As it nears the serous coat adhesions are formed, binding it to the parietal peritoneum, which solders the base and prevents a general leakage. The stomach being then firmly anchored at this one point a sagging of the cavity on each side, but chiefly in the cardiac side, occurs, and this, with the cicatricial contraction occurring in the ulcer, results in an hour-glass stomach.

(3) *Circular ulcer, with subsequent cicatricial contraction and induration.*—Such an ulcer extends transversely to the long axis of the stomach, and in its contraction while healing must inevitably cause a high degree of narrowing. The simple round ulcer is also fully competent to produce a stricture, though probably not with the same completeness as the former. The conditions found in one at least of my cases suggests very forcibly the likelihood of the ulcer having perforated into the general peritoneal cavity. The scar of the ulcer reached the serous coat, a tough cord-like adhesion sprang from its very middle and extended upward to the liver, while all around were extensive adhesions of varying degrees of toughness. The stricture formed in this manner may be placed at any part of the stomach; it is generally near to the middle, or rather to the pyloric side of the middle. The calibre of the orifice may vary from that of a No. 4 or No. 5 catheter to that sufficient to allow of the passage of three fingers. The greater curvature is generally puckered up towards the lesser, but the reverse is recorded in one case by Schwarz. Perforation of the ulcer at the constriction may occur, as in a case recorded by Siewers.

(4) *Cancer.*—Cancer of the stomach is a not infrequent cause of hour-glass stomach. In some of the specimens the cancer has clearly been implanted upon a chronic ulcer—"ulcus carcinomatosum." In others the cancer, originating in a localised area of the stomach, and there producing the constriction of the hour-glass, has in its later growth involved the greater part, or even the whole, of the stomach. The stomach then is thickened in all its coats by a diffuse growth, and the condition described as "leather bottle" stomach results. This latter state was well seen in Case 6 of my list, in which jejunostomy was the operation of necessity.



*Treatment.*—The following operations have been practised in cases of hour-glass stomach: (1) gastropasty, with or without resection of the ulcer; (2) gastro-gastrostomy or gastro-anastomosis; (3) gastro-enterostomy; and (4) partial gastrectomy. Frequently, owing to the existence of adhesions, gastrolisis has to be performed in addition to the operations mentioned. The choice of an operation will be determined by the conditions found at the operation. It is essential that a careful and complete examination of the whole stomach should be made before any procedure is adopted. For in some of the cases related below it will be noticed that the lack of adequate and precise knowledge has led to futile measures and fatal results. If the constriction be near the middle of the stomach, if there be little induration and no active ulceration, and if the pylorus be free, a gastropasty will prove successful. If the constriction be in any part of the middle third or half of the stomach, if the pouches on each side are "sagging" and free from adhesion, and if the pylorus is free, a gastro-gastrostomy will suffice to effect a cure. If, however, the stomach narrowing be associated with pyloric stenosis, the existence of which must be suspected if the pyloric segment is dilated also, no single operation will suffice. A gastropasty and a pycroplasty, or a gastropasty and a posterior gastro-jejunostomy must both be performed. It is possible that in some cases, such as that of Schwarz, where the lesser curvature is dragged down to the greater, that the incision dividing the constriction in the stomach might be utilised for the purpose of an anterior gastro-jejunostomy. If on separating parietal adhesions gastric fistula be found as in Doyen's case and in Case 1 of my list, the ulcer may be excised, or its edges may be trimmed, and a gastropasty may be performed. If the constriction be due to new growth, a partial or complete gastrectomy may be performed. If these prove not feasible, a palliative jejunostomy may be necessary.

Various operators have expressed individual preference for certain methods. Thus Eiselsberg, whose experience has been extensive, prefers gastro-enterostomy. He has performed 11 operations upon eight patients; three of the patients died as a result of the operation, and of the five survivors one suffered from a recurrence of the symptoms at the end of nine months. Eiselsberg objects to gastropasty, that recurrence of the stenosis is probable. The same objection has been brought by Berg and others against pyloroplasty. The probability is that while the process of ulceration is still active it is unwise to perform a gastropasty or a pyloroplasty, but that when the healing is complete, when perigastritis is absent, and the incision through the stricture is of good length, no relapse need

be feared. It is especially important to observe the condition of the pyloric portion of the stomach. If the isthmus be a narrow one the pyloric segment should be small and empty. If the pyloric cavity be dilated, as is expressly noted in Jaboulay's case and in Watson Cheyne's, there is a strong presumption in favour of the existence of a pyloric narrowing. If such narrowing be present and a gastroplasty alone be performed, the operation, though "successful" so far as recovery is concerned, cannot be expected to relieve the patient of all disabilities, and a second operation may be imperative.—*Lancet*, April 27, 1901.

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## 92.—OPERATION FOR APPENDICITIS.

By CHARLES A. MORTON, F.R.C.S.,  
Surgeon to the Bristol General Hospital, &c.

[From Mr. Morton's paper :]

If we operate early on every severe case, in which only signs of appendicitis are present, we shall, undoubtedly, operate on many which would recover without, and yet I should say—as has been said by other surgeons—the risk of operation is less than the risk of waiting ; for if general peritonitis is present the chance of recovery lies in early operation. Some would no doubt rather take the risk of waiting for recovery as the probable termination of the case would be recovery without operation. By early operation I mean operation in the first 48 hours, and I have had no experience of such. It is seldom I am asked to see the patient, unless either general peritonitis is suspected, or the case has failed to improve after some days of treatment. It seems to me, however, that if an operation is performed at this time, it would not be more difficult to isolate the coils of bowel adherent around a collection of pus within the general peritoneal cavity, than a few days later, and if no pus was found the appendix could be removed and the attack cut short and recurrence prevented.

But if the case does not materially improve by the third or fourth day, I believe the probability that pus has formed is great, and once pus has formed we have to face the risk that it may not remain shut in by adhesions, but may infect the general peritoneal cavity. I believe our rule should be to operate in all these cases—they often do recover without—but still I think there is considerable risk in leaving them alone. There is the double risk that after all the disease may be general peritonitis from the first, or if our diagnosis is correct and the disease is only appendicitis yet pus is very likely to



have formed and may become extravasated into the general peritoneal cavity. I have records of two cases in which a localised appendicular abscess ruptured and set up general peritonitis, one in which without rupture general peritonitis supervened, and four in which the symptoms and signs pointed more to simple appendicitis than general peritonitis, but the latter condition was found at the operation. On the other hand, I advised operation in two cases which recovered without. In both symptoms persisted after the fourth day, with well-marked swelling in the appendix region. Whether they have had recurrences or not I do not know. I, however, still think the safer course would be to operate in such cases. But if the case is progressing towards recovery, even when seen as late as several days after the onset, and even though the onset were severe, it is so extremely probable that the patient will recover, I do not think we could advise operation. I have seen several such cases in consultation with a view to operation, and decided not to operate. But I must say I do not feel quite safe in leaving even these cases alone. I have operated for general peritonitis on a patient who was supposed to have practically recovered from an attack of appendicitis by the medical man in charge of the case, and some years ago I made a post-mortem examination on a young man—a patient of another practitioner—who was supposed to be progressing very favourably, when he got much worse and very quickly died a week after the onset of his illness, and we found a pelvic abscess from perforated appendix, which had ruptured and set up general peritonitis.

If a patient had symptoms of early collapse, and yet had only abdominal signs of appendicitis, I should unhesitatingly recommend operation, as general peritonitis might very likely be present. If the symptoms were severe at the onset—intense general pain and frequent vomiting—and both persisted for more than 24 hours, I know from my experience of such cases that only appendicitis may be present, but I should not feel quite sure that general peritonitis was absent, even though the abdomen was soft and only slightly distended, the temperature not much raised and the pulse under 100; and I should therefore consider the safer course to adopt would be to operate. I should be inclined to tell the patient he would very likely recover without, but I should consider it was on the whole a safer course to operate. If the symptoms had persisted for several days when I saw the case I should probably say the same thing with regard to prognosis without operation, but should express a somewhat stronger opinion with regard to the advisability of operation. It is very difficult to define what we consider the right treatment for all cases—we must consider the individual case, but I think I may say that in many severe, and

in all persistently severe cases, operation is the safest course to adopt. In a case I could diagnose with certainty as one of either mechanical obstruction or early general peritonitis, I should recommend operation as practically the only chance. It is so different in even severe cases of appendicitis, for the patient may very likely recover without operation. He will almost certainly recover with skilful operation, and considerable risk will be avoided.—*Bristol Medico-Chirurgical Journal*, December, 1900.

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### 93.—SOME REMARKS ON CASES OF GASTRO-ENTEROSTOMY.

By W. J. WALSHAM, F.R.C.S.,

Surgeon and Lecturer on Surgery, St. Bartholomew's Hospital.

[From Mr. Walsham's paper :]

I have come to the conclusion that the operation of gastro-enterostomy is an excellent one, and one that may be undertaken even in advanced cases of cancerous obstruction of the pylorus with every prospect of immediate success and the prolongation of the patient's life in comfort for many months, or perhaps even years.

The operation I have invariably performed has been gastro-jejunostomy, and this always by the anterior or precolic method, and by means of Senn's plates or Murphy's button. I hold that when the operation has been done, as in most of my cases, for advanced cancerous obstruction of the pylorus, that the anterior operation performed by the button is the ideal procedure. When the emaciation and exhaustion are extreme, as they were in the majority of my cases, celerity with the least possible manipulation of the abdominal contents and the consequent reduction of shock to the minimum is essential for success, and however dexterous the surgeon may be, it is impossible to unite the parts by simple suture with anything like the speed that can be attained by the use of the button, and considerably more manipulation is necessitated in doing the posterior than the anterior operation. The anterior or precolic operation, as surgeons are all aware, consists in bringing a loop of jejunum over the great omentum and transverse colon, and fixing it to the anterior wall of the stomach; whilst in the posterior operation the back wall of the stomach is drawn through a hole in the transverse meso-colon and fixed to the jejunum. As far as I can ascertain the weight of authority is in favour of the posterior operation. It is argued that after it the exit



from the stomach is more favourably situated for the passage of the food, especially when the patient is in the recumbent posture, that it does not subject the patient to the risk of the transverse colon becoming constricted by the loop of jejunum carried over it, and that it is less liable to be followed by the regurgitation of bile into the stomach. It does not seem to me to matter, provided the opening is made somewhat near the greater curve, whether it is on the anterior or posterior wall, and the greater celerity with which the anterior operation can be performed more than compensates for the doubtful advantage that the posterior position of the aperture gives. I believe that there is absolutely no danger of constriction of the colon if a sufficiently long loop of jejunum be left between its origin from the duodenum and its attachment to the stomach. None of my patients have presented any sign of stricture and I do not believe when the precaution mentioned is taken that it could possibly occur. Nor have my patients suffered from regurgitation of bile. This absence of bile regurgitation may be attributed to the following facts: (1) that the attachment of the jejunum to the stomach was made sufficiently far from the duodenum to prevent any dragging on the aperture and consequent formation of a spur; (2) that several inches of the gut were attached to the stomach so as to obviate any kinking; and (3) that a half-turn was given to the gut before it was attached to the stomach, so that the direction of the peristalsis in the two viscera corresponded.

Another objection over and above the greater expenditure of time necessitated by the posterior operation is, to my way of thinking, that the vascular transverse meso-colon has to be cut or torn through to permit of the stomach and jejunum being brought into apposition. It is true that the rent is made in the direction of the vessels, but with every care it is quite possible to tear through one of the thin-walled veins or even arteries. Should this unfortunately occur, it not only gives rise to considerable delay at the time of operation, but one or more vessels may escape notice and may subsequently bleed into the peritoneal cavity. I regret to say that such an accident occurred to me once in the performance of a combined pylorotomy and gastro-enterostomy. One of the vessels divided in the gastro-hepatic omentum whilst removing the pylorus escaped notice, and although at the time all hemorrhage had been apparently stopped, bleeding recurred on the recovery of the patient from the shock, and no doubt materially contributed to the fatal issue of the case. As a final objection to the posterior method there is the risk of contraction of the hole in the meso-colon and gradual strangulation of the gut. —*Medical Press and Circular*, April 17, 1901.

## 94.—SHORT-CIRCUITING.

By A. ERNEST MAYLARD, M.B., B.S. Lond,  
Surgeon to the Victoria Infirmary, Glasgow.

[From Mr. Maylard's paper :]

By "short-circuiting" is to be understood the formation of a passage between one segment of the bowel above with another segment below. Thus an intervening portion of intestine is partially thrown out of action.

*Methods of operating.*—There are two methods by which short-circuiting may be executed—one by the lateral approximation and union of two loops of intestine and the establishment of a fistula bimucosa (entero-enterostomy, entero-colostomy, colo-colostomy), and the other by the division of a free segment of the gut, the closure of the distal end, and the lateral implantation of the proximal into another free segment. The former method incompletely cuts off the passage of the intestinal contents through the partially occluded segment of gut, while the latter completely does so. Both methods have their own peculiar advantages, which are not immaterial in considering the particular method best suited for each individual case. Thus, for instance, in a case of multiple strictures of the small intestine, where a jejuno-colostomy was performed, it was desirable that the great length of intestine intervening between the two united portions should not be so cut off that nothing could pass through. It was within the bounds of possibility that it might never become totally impermeable, and, therefore, the passage of chyme through it, although in small quantities, might materially help in the general nourishment of the system. On the other hand, when we are dealing with malignant ulceration, and hoping to give what can only be considered as relief for the remaining period of life, the passage of any material over the ulcer or through the stricture should be entirely prevented by the lateral implantation of the proximal extremity of the divided gut above the seat of disease into the bowel below it.

As regards the details of operating, stitching, I think, should alone be employed in either method. The objection to artificial or mechanical agents which temporarily remain in the bowel as a means of effecting communication, is that they are liable to become plugged with fæces, and so, for a time at least, defeat the ends for which they were employed. In one of my cases Murphy's button was indirectly the cause of death. The patient was suffering from chronic obstruction, the result of malignant disease of the colon. I performed an ileo-colostomy, using a Murphy's button for uniting the ileum to the colon. The



obstructive symptoms remained unrelieved, and the patient died in three days. It was then found that the channel of the button was completely plugged with fæces. In implanting the free end of the ileum into the colon it is as well to invaginate it for about half an inch. This is easily done by passing a traction stitch through the patent end of the ileum, and after transfixing the colon at a couple of inches or so with the needle carrying the traction thread, pulling on the latter. While thus secured it is carefully stitched all round with a double circle of Lembert's. The traction thread is last withdrawn. The point requiring most attention is at the attachment of the mesentery to the invaginated end of the ileum. In producing a fistula bimucosa the two portions of the gut involved in the union should be laterally approximated in such a way that the natural downward current of the fæces is maintained. From two to three inches of the applied surfaces of the two segments of gut should be stitched first, this line of union forming the posterior boundary of the opening. Then the bowel wall of each segment is incised, and the edges of the projecting mucous membrane of each orifice carefully united together, after which the posterior layer of stitches is continued on round the front until an external circle of Lembert's has been completed.—*Medical Chronicle, April, 1901.*

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## 95.—SUBPHRENIC ABSCESS AS A COMPLICATION OF APPENDICITIS.

By J. MCF. GASTON, JR., A.M., M.D.,  
Atlanta, Ga.

[From Dr. Gaston's paper. The details of his case and other parts are omitted.]

Leyden is one of the few writers to classify perforation of the vermiform appendix as a frequent complication of subphrenic abscess. He also mentions duodenal ulcer and empyema. His illustration shows the positions of the liver and of tympanites with great precision. The liver is pressed down and the pus presses the diaphragm up. Some remarks may be appropriate in reference to subphrenic abscess following appendicitis, for we find that rarely does this complication occur. Baldwin's cases make the forty-fourth and forty-fifth cases. He has studied the statistics presented in the monographs of Leyden, Maydl, and

Sachs, with the addition of some cases reported in this country. Many of the cases were not diagnosticated until after the death of the patients revealed the condition. Pathological examination has shown that these cases may be extra-peritoneal or intra-peritoneal. Baldwin's first case was one in which the appendix was found behind the cæcum, causing him to believe that the infection extended upward behind the peritoneum, and that the entire abscess was extra-peritoneal. In this case the first operation was done June 6, 1899, and not till July 20, 1899, did the presence of a chronic abscess, pointing on the right side, become evident, and on the following day was evacuated by an incision immediately under the twelfth rib, an enormous amount of pus coming from a large cavity lined with ragged edges and extending up toward the diaphragm above the liver. After the rough drainage the cavity closed in about six weeks. The second case was in a young lady, aged 16 years. She was operated on the first time July 26, 1899, and then again on August 28, 1899. The last time was for the subphrenic abscess which had appeared below the twelfth rib. The liver was found normal, but with a mass of exudate back of the suspensory ligament with evident adhesions at this point. Baldwin describes the pus cavity found as about the size of a small orange, with a somewhat ragged interior, which was washed out, with a counter-opening for drainage. In this case the abscess cavity was packed with gauze, and closed in two weeks.

In my case the symptoms from the start were evidently due to a subphrenic abscess from fluctuation below the twelfth rib and the rapid respiration. A channel, so to speak, was opened up by the cutting away of a large obstruction of adherent omentum during the operation for appendicitis. The pyogenic membrane must have been very strong, as no pus was evacuated from this region when it was explored by my fingers. No septic contamination resulted on account of this thorough isolation of the subphrenic abscess from the appendical wound. The extension of the inflammation may have been extra-peritoneal as in Baldwin's case. The direction of the discharge was from the diaphragm as shown by coughing and deep respiration bringing on quite a sudden outflow of pus. It could not have been an appendical abscess alone, for no connection with this part of the wound seemed to exist. In Baldwin's cases there was a longer interval between the subsidence of symptoms in the appendical region before pus was found above. Yet the case I report was so much more protracted that no other explanation could be given. Then the recovery was very prompt and permanent. The outcome was peculiarly fortunate, not requiring another operation. One may seek to find, in his previous history, some cause for this subphrenic abscess; and it was ascertained that



he had received a blow in his work on the railroad several months before. The pain and inflammation at this time remained in abeyance until after the time when the appendix was involved. The sub-diaphragmatic abscess was certainly the most dangerous feature of his case, and could not have been cured by the entire closure of the wound as advocated by Joseph Price and others dealing with appendical abscesses alone.—*Medical Record*, March 23, 1901.

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### 96.—PANCREATITIS.

By A. W. MAYO ROBSON, F.R.C.S.,

Senior Surgeon to the General Infirmary at Leeds ;  
Emeritus Professor of Surgery in the Yorkshire College of the  
Victoria University.

[In an address before the American Surgical Congress, Mr. Robson thus speaks of the treatment :]

*Acute pancreatitis*.—In acute infective pancreatitis treatment practically resolves itself into that of peritonitis, commencing in the superior abdominal region. The pain at the onset is so acute as to necessitate the administration of morphine, and the collapse will probably demand stimulants, which, on account of the associated vomiting, may have to be given by enema. In the early stages the symptoms are usually so indefinite that the indications for surgical treatment are not clear enough to warrant operation, and until the collapse has passed off no surgical procedure would generally be justifiable. The simulation of intestinal obstruction will probably lead to efforts to secure an evacuation of the bowels and relief to the distension. Just as in a perforative or gangrenous appendicitis an early evacuation of the septic matter is necessary to recovery, so in this equally lethal affection an early exploration from the front through the middle line above the umbilicus, or from behind through the left costo-vertebral angle, is demanded in order to evacuate the septic material and adopt free drainage. The after-treatment will be chiefly directed to combating shock and keeping up the strength until the *materies morbi*, both local and general, can be thrown off. Even if no pus be found no harm should accrue by such an exploration, which can be made in a few minutes through a very small incision in the middle line above the umbilicus, if necessary with the aid of cocaine anæsthesia. After establishing the diagnosis by the anterior

small incision and the introduction of a finger, the posterior incision, which must be a free vertical one in the left costo-vertebral angle, so as to permit the insertion of the whole hand if thought necessary, will enable the diseased organ to be very freely examined, and if necessary drained for the evacuation of pus and gangrenous material, thus involving no risk to the general peritoneal cavity, and little danger of retained septic matter, as the drainage will be a dependent one.

*Subacute pancreatitis.*—The subacute form of pancreatitis is more amenable to treatment, as the indications are so much more definite, and there is more time for careful consideration; and though it has usually only been attacked when an abscess has formed, and is manifestly making its way to the surface, yet there is no reason why in some cases surgical treatment should not be adopted at an earlier stage. As in the acute condition, morphine may be required to relieve the pain, lessen the collapse, and support the strength. Distension, if present, may also demand attention, and may have to be relieved by lavage of the stomach and turpentine enemata, or by the administration of calomel by the mouth. Calomel is also of benefit by acting as an intestinal antiseptic, for which purpose it may be given in small repeated doses or in doses of 5 grs., followed by a saline aperient. As soon as the constipation is relieved, diarrhœa is apt to supervene, when salol and bismuth, with small doses of opium, may be given. If surgical treatment is decided on, a medium incision above the umbilicus will enable the operator to palpate the pancreas and locate any incipient collection of pus, which, if practicable, should then be evacuated by a posterior incision in the left or right costo-vertebral angle; or if the posterior incision be thought impracticable, the collection of pus may be aspirated and the cavity opened and packed with gauze, which may be brought forward through a large rubber tube, which will in the course of from twenty-four to forty-eight hours establish a track isolated from the general peritoneal cavity. Of five cases on which I have operated, three recovered completely, one recovered from the operation but died a few weeks later from chest complications and debility, and the fifth case is the one just referred to. The strength must be maintained by careful feeding and the administration of stimulants, and it will be necessary to keep a sharp look-out for further collections of pus and for subphrenic abscess or empyema, which on recognition will need treatment.

*Chronic pancreatitis.*—Chronic pancreatitis must also be treated by abdominal section and drainage, but in this case the drainage is indirect and obtained by draining the gall-bladder by cholecystotomy, cholecyst-enterostomy, or duodeno-choledochotomy. The exact line of treatment cannot be



determined until the abdomen is opened, and for this purpose I prefer, as in all my gall-bladder operations, a vertical incision through the upper part of the right rectus, splitting that muscle to whatever extent is necessary in order to obtain a good view of the diseased region, and to afford plenty of room for manipulation. If a mere cholecystotomy on a distended gall-bladder is necessary, an incision of one or two inches will usually suffice, but if the gall-bladder be contracted or if the ducts have to be attacked, an incision of four to six inches will be required, and if the several layers of the abdominal wall are sutured separately there is no fear of subsequent hernia ; this I can affirm by ample experience. It saves much time and much unnecessary dragging on the parts when operating on the common duct or duodenum, to have a free incision, and there is no retractor equal to the hand of a skilful assistant, who with a flat sponge interposed between the spread-out fingers of his left hand and the viscera, will at the same time afford the operator a good view of the field of operation, and with his right hand help in the further steps of the operation. If the right costal margin or the edge of the liver be obstructing the view, another assistant may with advantage retract it, either by digital manipulation or by means of a wide retractor with a long handle, so that he can stand back a little and avoid embarrassing the operator. As a matter of experience I seldom find a second assistant necessary. A sponge in the pouch to the right of the common duct and one pushed down over the right kidney helps to catch all escaping fluids and to keep the peritoneum clear. When the ducts or the duodenum are opened, sterilised gauze pads are employed to mop up the fluid as it escapes, but none of these are allowed to remain even temporarily in the abdomen. When there are gall-stones present, they should be removed, unless the patient is too ill to permit of the complete operation ; but in every case drainage must be secured, if possible by cholecystotomy, as in nearly all my successful cases ; moreover, the drainage must not be stopped before the bile has become healthy, and not before the greater amount of bile is being passed by the bowel, which will be certain to occur as soon as the swollen pancreas has subsided if the duct be otherwise clear of obstruction.

It might be thought that cholecyst-enterostomy would be an ideal operation in the treatment of these cases, but experience says it is not ; for instance, in one of my cases the operation brought about so much relief that a cure was being anticipated, yet in the third month relapse occurred and death ensued, apparently simply owing to closure of the new opening between the gall-bladder and duodenum. The result of treatment in this class of cases has been most encouraging, as out of 22 cases.

operated on only one died directly from operation, and in that case the patient's life was only very slightly shortened, since he was reduced to the last stage of exhaustion before a surgical opinion was sought. Of those recovering from operation, with the exception of two that died a few months later, complete and perfect recovery ensued. These results contrast very markedly with the surgical treatment of cancer of the pancreas, where nearly half the cases operated on have died directly as the result of operation, and in those who have survived life has only been prolonged for a comparatively short time.—*British Medical Journal*, May 11, 1901.

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## 97.—EXCISION OF CARCINOMA OF THE RECTUM BY THE TRANS-SACRAL METHOD.

By SINCLAIR WHITE, M.Ch., F.R.C.S.,  
Surgeon to the Sheffield Royal Infirmary, &c.

[Mr. Sinclair White relates a successful case in a man, aged 36 years, and then makes the following remarks :]

The trans-sacral route for the removal of malignant growths of the central and upper portions of the rectum was introduced by Kraske, whose name it bears, and has been extensively practised in this and other countries for nearly a decade. Latterly, if we are not mistaken, the trend of surgical opinion has been to discount the high favour in which the operation was held soon after its introduction. The time has scarcely arrived for pronouncing a final verdict as to its place among the operative procedures we possess for dealing with cancer of the rectum, but that it, or some modification of it, will retain a permanent position seems in the highest degree probable. Accumulating experience goes to show that columnar-celled carcinoma—the type almost exclusively found in the middle portion of the rectum—remains for a considerable time a purely local disease, and that if during this time it be freely excised there is an excellent prospect of prolonged immunity from recurrence. The operation is necessarily a formidable one, but in suitable cases the mortality attending its performance is not a prohibitive one, and the results it yields when successful are infinitely superior to those following any other method. It should, however, be restricted to cases where the growth is actually limited to the rectal walls, and where there is an interval of at least two inches of healthy bowel between its lower limit and the anus. The



patient should have no other serious organic disease, and should be in fair health. In old people the recuperative power is rarely sufficiently good to warrant the performance of so severe an operation, and a well-devised iliac colotomy offers a much safer method of alleviation, especially when we consider that the disease in advanced life is usually of slow growth. One of the most, if not the most, serious risk of the operation is septic infection of the peritoneum, and every care should be taken to eliminate as far as possible this danger. Although it adds considerably to the length of the treatment and introduces additional risks by multiplying the number of operative procedures, there can be little doubt that a preliminary iliac colotomy should, as a rule, be performed. In this way, by diverting the fæces, it is possible to carry out Kraske's operation under fairly aseptic conditions, while the information gained by an intraperitoneal examination of the growth, when the abdomen is opened, enables the operator to clear up any doubt that may have existed respecting the implication of the surrounding tissues. In removing the coccyx and lower portion of the sacrum subperiosteal resection should be aimed at so as to disturb as little as possible the attachment of the anal muscles and their nervous connections. Some difficulty is usually experienced in tearing through the mesorectum on either side, but this may, to a great extent, be obviated by getting an assistant to introduce his finger through the anus and to push the lower part of the rectum upwards and backwards. It is of vital importance to deal tenderly with the vascular supply of the upper end of the rectum, and when the peritoneum has to be extensively snipped through so as to enable the growth to come down, the division should be made at some distance from the rectal walls. Kraske's original plan was to leave the posterior part of the rectal walls unsutured so as to create a temporary artificial anus, and when a preliminary colotomy does not form a part of the operation the method has much to commend it; but with the fæces diverted and a thoroughly cleansed mucous membrane, there should be no hesitation in completely restoring the continuity of the bowel—indeed, nowhere else in the intestinal tract do so favourable conditions for reunion obtain. While it is desirable to close the peritoneal wound as much as possible, the point is probably not an important one. With the patient on his back any opening which may exist is a dependent one, and secures efficient drainage during the short period antecedent to its closure by exudation lymph.—*Quarterly Medical Journal*, May, 1901.

## ORGANS OF URINE AND GENERATION.

## 98.—DIAGNOSIS OF STONE IN THE KIDNEY BY THE X-RAY, AND ITS TREATMENT.

By ARTHUR DEAN BEVAN, M.D.,  
Chicago ; Surgeon to the Presbyterian Hospital.

From Dr. Bevan's paper :]

In the *Annals of Surgery* for February, 1900, Leonard reports fifty-nine cases of suspected renal calculus examined with the x-ray. Of the fifty-nine cases examined, twelve had stone either in the kidney or ureter, eight of these cases were confirmed by operation. One case later passed a ureteral calculus ; two others had ureteral calculus, but age of patient did not warrant operation, and one case of positive diagnosis refused operation. Of the negative cases, seven were operated and the negative diagnosis confirmed in all except one, where faulty technique was responsible for not finding the stone, *i.e.*, the portion of kidney containing stone was not in the field. I have had the pleasure of seeing Dr. Leonard's skiagraphs, and believe that entire confidence can be placed in his work and conclusions. My own experience agrees perfectly with Leonard's. I am so fully convinced of the value of the x-ray as a means of diagnosis in kidney stone, that I unhesitatingly say that a perfect skiagraph with the proper amount of detail and differentiation is of greater value as a means of diagnosis than an exploratory operation. Such a skiagraph will show whether there is a stone or not. It will show whether there is one or more stones. It will show which side the stone is on. It will show the position of the stone or stones. One skiagraph reproduced, showing a single stone in the kidney, was taken after an exploratory operation had failed to find stone. If a perfect skiagraph had been obtained before operation, there is no question but that the stone would have been found. I have had this experience, too, in my last two cases. In one three stones were shown in skiagraph. At the operation but two were found in the pelvis. Needling the kidney substance at the point shown by skiagraph as the location of the third stone, a small stone in the kidney tissue was found and removed. In another case a large and three small stones were shown in skiagraph. The large stone was easily found and removed ; the small stones only after very patient search, which certainly would not have been continued



had not the skiagraph shown the existence of others besides the large stone. I have obtained from Mr. Fuchs, in the Schiller Building, a collection of nineteen skiagraphs in which renal calculi are shown ; five of these are my own.

I shall not present a detailed report of my own work, which has been limited to seven nephrolithotomies, and two cases in which stones were removed from kidneys converted into pus-sacs, but rather I will discuss a few points gained from this experience. First, I have been agreeably surprised in having no mortality ; and I am inclined to believe that the mortality from nephrolithotomy is not, and will not be, nearly as great as we have been led to believe from a study of statistics. Second, the prognosis as to permanent cure is not as good as after operation for bladder-stone or gall-stone. In my limited number of cases I have seen two cases of recurrence of stone after apparently complete operations, one done by myself, and one operated by a competent surgeon. In this last case, two years after the first operation, I operated and removed three stones, which were certainly not present at the time of the first operation. And, again, in some cases where no new stones are formed, the pyelitis persists, and the patient is not restored to complete health because of an impaired kidney or kidneys. On the other hand, in many cases the operation is followed by complete and permanent cure. Finally, I desire to discuss a few points in the technique of the operation. I am done with incomplete operations and operations done in the dark for kidney stone. Such operations may still be necessary in complicated cases, but in the nephrolithotomy done on a kidney not the subject of pus infection a complete operation done under the guidance of the eye is, as a rule, possible, and should be carried out. The entire kidney should be exposed and brought into view, or, at least, under the control of the hand and fingers.

The best incision is an oblique one, beginning a finger's breadth below the last rib, and running obliquely downward and outward to a point a finger's breadth above the anterior superior spine. This incision has this advantage, that in case of necessity of exposing the ureter, the incision can be extended by a splitting of the external oblique downward to a point above the internal ring, which will give the fullest exposure of that structure. Through this incision the kidney is freely loosened from its bed, so that it remains attached only by its vessels and ureter. In the ordinary patient this will permit the surgeon to bring the kidney out of the wound and in perfect view. In very thick patients, it may not be possible to do this, but we can at least, by introducing the hand in the incision, control the pelvis and the vessels. This control, especially when the kidney can be brought out of the wound, makes the subsequent steps in the

operation under as complete control, and as easy as in an anterior gastro-enterostomy. Do not be afraid of a large incision, as the dangers of hernia are almost nil. Do not be afraid of dislocating the kidney ; with care and patience it can almost always be safely done. The kidney, its pelvis and vessels under perfect control, is split by an incision two or three inches in length on its convex border, the pelvis opened and examined, and the stone or stones removed ; the pelvis washed out with hot normal salt solution, and carefully re-examined for stone and stone fragments. If none are now found, the kidney wound is closed with medium-sized catgut, placed deeply in its substance ; the external wound closed with buried catgut and silkworm gut, except a small portion, through which a drain is carried to the closed wound in the kidney substance. Of course, where pus infection exists, the kidney pelvis should be drained.—*Annals of Surgery, March, 1901.*

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#### 99.—THE MODERN TREATMENT OF STONE IN THE BLADDER.

[From a leading article in the *Lancet* :]

In 1822 Civiale placed on a firm foundation the operation of lithotrity, and the value of the crushing operation was rapidly recognised and its employment spread widely. Yet there was no real tendency for lithotrity in the form then employed to displace the lateral operation of lithotomy, and it may be said that lithotomy remained the chief operation for vesical calculus for fifty years after the introduction of lithotrity, the crushing operation being performed in those cases only which were considered to be especially suited for it. And no material change was made in surgical procedure under lithotrity until the year 1878. The operation was still performed in several "sittings," and the crushed fragments were still removed mainly by the natural urinary flow. Bigelow, in 1878, published his method of crushing the stone ; he employed lithotrites still more powerful than those previously used, crushed all the fragments, and removed them at the one operation. Bigelow showed that this procedure was much more readily tolerated by the bladder than less thorough operations in which many of the fragments were left within the viscus which thus never had the complete rest which was necessary for its recovery. Bigelow's new operation was accepted after a little hesitation by all, or nearly all, surgeons throughout the world, and in a very few years the operation with which Civiale's name was associated had died out ; and so thoroughly had the later replaced the earlier operation, that the name "lithotrity" was transferred to the new operation,



and, in fact, at the present time when lithotrity is spoken of Bigelow's method is always intended. The name "litholapaxy" is occasionally used to designate the operation introduced by Bigelow, but it is not unlikely ultimately to be given up for the somewhat shorter if no more euphonious "lithotrity."

About 1880 an attempt was made to re-introduce the "high" or suprapubic form of lithotomy; this was supported chiefly by Professor Peterson of Kiel, and by Sir Henry Thompson. The operation was, of course, not in any way new, as it had been performed at intervals from the middle of the sixteenth century, and in 1875 Dr. C. W. Dallas collected 465 cases of the operation which had been recorded in medical literature. The mortality from suprapubic lithotomy has varied greatly, but in skilled hands the results in suitable cases are comparable with those of any other method. At present it can only be considered advisable in certain cases in which lithotrity cannot be performed. Though Bigelow's operation had replaced all other methods for removal of a vesical calculus in adults, boys were until recently still submitted to the cutting operation, as it was thought that in them the calibre of the urethra was insufficient for the introduction of suitable lithotrites. But in 1884 Dr. D. F. Keegan, then a surgeon-major in the Indian Medical Service, published his results on lithotrity in boys, and these showed that the operation was as applicable to boys as to adults, and that the mortality after lithotrity was distinctly less than after lithotomy. This teaching has been accepted, and lithotrity in boys may be considered to be fully established, though naturally even more than ordinary care has to be employed in the operation. Thus it has come to pass that in all cases of stone in the bladder the crushing operation presents itself as the most suitable means of removal, and that a lithotomy should only be performed where some insurmountable obstacle exists to the effective use of the lithotrite.

Much of the work which has led to these conclusions has been done in India, where there is an unrivalled field for the treatment of stone in the bladder. The frequency of vesical calculus in some parts of that country is very great, and it does not appear strange, when the large population and the comparative scarcity of surgeons are considered, that it sometimes falls to the lot of a surgeon in India to operate in several hundred cases of stone. In an interesting discussion on this subject, which was held at the last meeting of the British Medical Association, it was maintained by some of the speakers that the stones in India were not of such firm consistence as those met with in East Anglia, and therefore that conclusions based on Indian experience were not applicable to calculi met with in this country. The opposite opinion was strenuously maintained by

others at that meeting, and it may well be that though there is some difference in the hardness of these calculi the difference is but slight. A striking indication of the extent to which treatment of stone is required in India is afforded by the appearance recently of a special number of the *Indian Medical Gazette* devoted to the consideration of vesical calculus and its proper therapeutics. In this are printed articles by Dr. Keegan and others, who have had much experience in this branch of practice, and many notes are also given on special points in connection with lithotripsy. No surgeon can doubt after reading our contemporary's special number that at the present time the safest and most speedy method of removing stone from the bladder in nearly every case is Bigelow's operation of lithotripsy.—*Lancet*, January 19, 1901.

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#### 100.—SYPHILITIC ULCERATION OF BLADDER.

By H. CRITCHLEY HINDER, M.B., Ch.M.,  
Hon. Surgeon Prince Alfred Hospital, Sydney.

Syphilitic ulcer of the bladder is a somewhat unique form of urinary disorder, and a possible cause of hæmaturia, which it would be as well to take into account. I have never heard or read of syphilitic ulceration of the urinary bladder, and the following is the only definitely marked case I have seen:—

The patient was a thin, anæmic Jew, 55 years of age. I could never obtain any history of syphilis, but he had suspicious scars on the legs. Nine months ago, without any apparent cause, he began to pass water more frequently than usual, and at the end of micturition there was a little bright blood. About six months ago the blood loss was at times profuse, and alarmed him, while at others he passed first clear water, then dirty, darkish stuff, and at the last a little pure bright blood. There were also occasionally small dark, black clots, irregular in shape. He never experienced any pain whatever, all that bothered him was frequency of micturition and blood. He passed urine every two or three hours by day, and two or three times at night. Exercise increased the frequency. There was always more or less straining at the end of micturition. When an examination was first attempted the bleeding was so profuse directly a catheter was passed that the result was practically negative. After a few days rest in bed the hemorrhage lessened, and on carefully washing out the bladder, a cystoscopic examination showed a large, irregular-shaped, deep-cut ulcer, about  $1\frac{1}{2}$  inches behind the left ureteral orifice. Its base was lined with black blood clot, and the lower edge was somewhat obscured by the



same. There was a slight oozing of blood from the lower angle of the ulcer. The surrounding surface of the bladder was dull and blood-stained, and presented no specially peculiar features. The patient was kept in bed. No local treatment was adopted, and 12 grains of pot. iod. were given three times a day. At the end of ten days another cystoscopic examination was made. The ulcer before observed had shrunk, and was much more shallow. There were two or three other stellate fissured ulcers, bright red in the centre, and surrounded by a pink blush. The surface of the bladder generally was cleaner and brighter. A week later only one small superficial post-prostatic patch could be discovered. The blood ceased entirely at the end of the ninth day. The patient left hospital at the end of the month in practically perfect urinary health. The general appearance and character of the ulcer was certainly different to any other form of vesical ulcer I had previously seen. The absence of pain is a feature somewhat peculiar to syphilitic lesions, and the ulcer was so marked that had it been any other form it would have probably caused a fair amount of pain. The peculiar scars on the legs, although no history of syphilis was present, were enough to excite one's suspicion. In addition to all this, considering that the patient had been under various forms of treatment for nine months, I purposely avoided local treatment, thinking that if the whole trouble subsided under the internal administration of pot. iod., one would hardly be wrong in assuming that the diagnosis was correct. It is at all times extremely difficult to discover the cause of hæmaturia, in fact, without a cystoscopic examination it is well nigh impossible in most instances. This man had been looked upon as a case of malignant disease, and his wasted and anæmic appearance made such a state of affairs highly probable. The case certainly possesses such interesting features that I feel that I need offer no apology for reporting it.—*The Australasian Medical Gazette*, March 20, 1901.

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#### 101.—TREATMENT OF DENSE, TIGHT, DEEPLYING STRICTURES OF THE URETHRA.

By LEWIS STEPHEN PILCHER, M.D.

[The following is taken from a leading article written as a tribute to the late Dr. Otis :]

For the relief of the deep-lying stricture, systematic division by incision through the perineum is in a large proportion of cases the only method available, and in all cases is now accepted by surgeons as the best and safest procedure to adopt, owing to the security against the accidents of infection which the free

external cut affords. The application of the second part of the treatment, *i.e.*, the maintenance of the highest possible degree of dilatation allowed by the normal distensibility of the sound urethra while the longitudinal cut in the urethral wall was healing over, follows naturally, and is easy of practice after the *débridement* of whatever constrictions may be present in the anterior urethra, involving always a free incision of the external meatus. If, in such a class of cases as these just described, the method in question may be so used that as a rule a permanent restoration of the normal calibre of the urethra is secured, that is to say, one in which there is no tendency to recontraction upon the cessation of the practice of dilatation after a reasonable length of time of its use, then it is safe to say that strictures in general are curable by such a method. Now, what has our experience taught us to be the real state of the case?

During the past fifteen years I have had under my care between forty and fifty cases of such dense, tight, deep-lying stricture of the urethra that immediate external perineal urethrotomy has been demanded for the relief of the urinary obstructions which they manifested. I find among my records notes of more than forty of these cases, and there are quite a number more that I recall of which I have presented no notes. I shall confine myself with much brevity to general results. The severest types of perineal and scrotal extravasation, and gangrene, of cystitis and pyelonephritis, have been illustrated by some of these cases, and in consequence a certain degree of mortality is presented by them. Many of them, when they came under observation, were in a condition of profound prostration from pain, sepsis, and uræmia in various proportions. In three cases death was not arrested by the operative interference. In a fourth case a fatal pneumonia developed two weeks after the operation upon the urinary tract, the healing of which had pursued an uncomplicated course.

On the other hand, in some apparently desperate cases most gratifying response followed the efforts made, and unexpected recoveries, with restoration to sound health, both local and general, were secured. Most of these cases applied for hospital relief, and thus came under my care, in consequence either of complete retention or of extravasation of urine and acute urinary abscess, or for intractable perineal urinary fistulæ. As a rule, efforts at introducing even the smallest catheters through the urethra into the bladder were unsuccessful, and in many cases temporary relief was first given by suprapubic aspiration. I am free to say that I have never felt justified in resorting to prolonged efforts to secure, mayhap, the passage of a filiform instrument through these strictures. If a No. 2 or No. 3 English olive-tipped catheter does not readily pass, the aspirator should be employed and preparations for perineal section made.



As to the technique of the perineal section, it is not necessary to dwell on it at length. Most of the cases required careful and extended perineal dissections without a guide to find the vesical end of the obliterated canal. I have not hesitated to make as free external incisions as were needed to secure adequate exposure of the deeper parts. I have in some cases dissected out and cut away the infiltrated, distorted, and hardened mass of cicatricial tissue into which the urethra has been converted for a length of one-half or three-quarters of an inch, and, freeing the healthy ends of the urethra, have secured them together by sutures in the depth of the wound. In the majority of the cases the constricted portion of the urethra has been simply freely incised along its floor until, by the use of the gorget of the lithotomist and the tip of my index-finger as dilators, I have been able to introduce my index-finger through the dilated membranous and prostatic portions of the urethra into the bladder. The middle of this finger has a circumference of six centimetres, and thus corresponds to a sound which would be No. 60 of the French scale, and this is the amount of dilatation short of which I do not feel satisfied to leave such a case.

As the first step in the management of these cases, the anterior urethra, by means of incision of the meatus and the use of an urethrotome to divide any structures of larger calibre along the penile portion, is dilated until it permits the passage of a No. 40 sound. This is my standard for the average adult. In my earlier cases I stopped at Nos. 34 and 36, but soon had reason to see that a higher degree of primary dilatation ensures a smoother and more satisfactory after-course. The anterior urethra having thus been fully dilated, the bulbous urethra freely incised, and the membrano-prostatic portion having been over-stretched, the No. 40 sound is finally passed through the whole urethral tract from external meatus to bladder as a final demonstration of the adequacy of the means used to restore patency to the canal. This sound having been withdrawn, a piece of rubber tubing of about the same calibre is passed through the perineal wound along the urethra into the bladder and secured by a suture point to the walls of the wound which are brought up to it by the suture. The deeper wound is packed with iodoform gauze, and the operation is finished. On the fourth or fifth day this tube is removed, and under cocaine or nitrous oxide sounds are introduced from the external meatus to the bladder, using usually Nos. 36, 38, and 40 in succession. This is repeated every third day for two weeks, then once a week for a month, then at rapidly increasing intervals, once in two months, six months, twelve months. The object to be attained is the frequent stretching of the new plastic material effused for the repair of the longitudinal wound that has been made until it

is fully covered with a sufficiently thick layer of epithelium on its mucous surface, and its texture is fully organised, lax, and distensible. The thing to do is, first, to get the longitudinal scar, and it is this which Otis taught us how to do. How many of my own cases are to-day free from any reconstriction I do not know. Of most of them I have no knowledge since they were discharged from the hospital. Of them all only one has come back on account of recontraction. This was in the case of a young fellow of 28 years of age, who was insubordinate and uncontrollable, and gave up treatment prematurely. Fifteen months later he came back in as bad a plight as at first. I re-opened his perineum, and had to excise three-quarters of an inch of his damaged urethra in order to put the parts in a condition conducive to future immunity. This time he was perfectly tractable. Six months later a No. 36 passed readily. I saw him again some four or five years later, when he stated to me that he was still perfectly well ; but I made no examination. The writer does not wish to be understood as taking the position that in all cases, nor, indeed, with certainty in any given case, a surgeon would be justified in promising permanent immunity from recontraction by the adoption of the method of treatment described, or by any method of treatment whatever. The variations in the local conditions presented by different individuals are so great, and so impossible of recognition beforehand, involving, as they do, individual peculiarities of tissue-irritability and repair, of the readiness of tissue to yield to distension, of the activity of the absorbents, of freedom from sources of infection and renewed local irritation and exudation, that the best and most carefully-conducted efforts of the surgeon may fail at times to secure the ideal result.—*Annals of Surgery*, January, 1901.

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## 102.—HYDROCELE AND ITS OPERATIVE TREATMENT.

By ORVILLE HORWITZ, B.S., M.D.,

Clinical Professor of Genito-Urinary Diseases, Jefferson Medical College.

[Dr. Horwitz's paper is based on 338 operations for hydrocele. He finally describes a new method suggested by Doyen.]

In 1898 Winkelmann published in the *Centralblatt f. Chirurgie* (No. 44, p. 1092) a description of a new method of operating on ordinary chronic hydroceles, which seems to answer all requirements and solve the vexed question as to what may be the most practicable. The operation is performed under local



anæsthesia, Schleich's infiltration method being employed. The ordinary incision is made through the scrotal tissue until the tunica vaginalis is reached. An opening is then made in the upper portion of the sac in the vicinity of the cord, large enough to permit the testicle to be drawn through, after the fluid is evacuated, when the tunica vaginalis propria is turned back, or everted. In order to prevent the testicle from slipping back into the sac, the upper part of the tunica vaginalis is secured by means of fine catgut to the fascia of the cord, a suture being at the same time placed at the lower end of the repleted tunica, thereby anchoring the tunic in its new position and preventing the testicle from returning to its normal position. The testicle, together with the inverted sac, is then replaced within the scrotum, and the wound closed by means of a couple of interrupted sutures. The time employed for the operation is less than ten minutes. As it is not attended by hemorrhage no ligatures are needed.

When studying the subject of hydrocele I found that a precisely similar operation to that of Winkelman had been previously described by E. Doyen, of Reims, France, in the *Archives Provinciales de Chirurgie* (tome iv, No. 2, p. 706, 1895), under the title of "Radical Cure of Hydrocele by Inversion of the Tunica Vaginalis," thus antedating the publication of Winkelman by three years, so that it appears the credit of first suggesting this process belongs to Doyen, and should receive his name. I am under the impression that this operation was first performed in America by Prof. W. W. Keen at the surgical clinic at the Jefferson Hospital on January 16 of the current year. In the minutes of the case it is noted: "The operation required less than ten minutes to perform. No ligature was required. The highest temperature reached was 99.2 deg. The patient left the institution on the twelfth day, cured."

Since witnessing the operation here referred to I have had the opportunity of performing it eight times. My experience in each instance has been similar to that of Dr. Keen. The largest hydrocele contained one and a half pints of fluid. In each case the time required for the performance of the operation was about nine minutes. No ligature was required, and the patients were enabled to leave the hospital on the ninth day. In large hydroceles of long standing, with greatly thickened sacs, the operation would not be feasible, and the partial resection of the tunic would have to be resorted to.

In all the cases operated upon by inversion of the tunica vaginalis a painless enlargement of the testicle resulted; it was, however, not attended with any rise of temperature, and it gradually subsided in about ten days. This condition is

precisely similar to that which always follows the open operation for hydrocele. This new operation is still on trial. My limited experience with this new method of treatment inclines me to the belief that it will prove to be the most satisfactory operation which as yet has been suggested for the radical cure of an ordinary chronic hydrocele.—*Therapeutic Gazette, April 15, 1901.*

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### 103.—VARICOCELE.

By WILLIAM H. BENNETT, F.R.C.S.,  
Senior Surgeon to St. George's Hospital, London.

[From Mr. Bennett's paper :]

*Varieties.*—One variety is composed simply of very large veins passing down from the inguinal canal and the external abdominal ring to the testicle, the veins reaching sometimes to a very large size. It is to this particular variety of varicocele that the comparison to a bag of worms is applied, a resemblance which is much increased—a fact you do not always find mentioned—by the way in which the long veins writhe and wriggle with the contraction of the cremaster muscle. They writhe precisely like a number of worms in a bladder. That is the commonest form of varicocele, and in the absence of injury it is generally harmless. Injury may, of course, lead to thrombosis and to other evils like those which may follow injury to veins elsewhere. In the second kind the veins are small and exceedingly numerous; they may in a dissection be counted by hundreds, and they are massed around the testicle, the other part of the cord being practically normal, the appearance at first sight resembling merely a very large testicle. These masses of veins of the smaller sort clustered round the testicle are more commonly associated with defective growth of that organ than the larger ones. In the case of the large vein form of varicocele difference in the size of opposite testicles is the exception, although it sometimes occurs; but in the small vein variety the testicle on the side affected is generally smaller than that on the other side. I must remind you of the elementary fact, which is sometimes forgotten, that these small testicles in varicocele are not wasted testicles; they are not shrunk, but they are testicles which have been checked in their growth. There is no atrophy of the testicle because it has never grown; there has been arrest of growth at the period of puberty in consequence of interference with nutrition, the result of the abnormal growth of veins.

The practical bearing of what I have just been saying is this: In reality there is no reason at all why a man who suffers from



the large vein varicoceles should be considered to have any physical defect apart from liability to injury. The patients, on the other hand, who suffer from the small vein sort have a defect which is liable to be followed by trouble ; it therefore should receive consideration.

*Operation.*—Various operations have from time to time been devised for the cure of varicocele. About twelve years ago I went into the question of the radical treatment of varicocele very thoroughly, and came to the conclusion that the only operation which could be performed with perfect certainty of completely curing the condition without fear of recurrence was one which effected the complete division of the whole of the spermatic cord with the exception of the vas deferens and its vessels. I have now performed this operation more than two hundred times, and am convinced that it is the best method for effecting the desired object at present devised. The details of the operations which I now use differ a little from those which I published in 1891, although the effect of the operation is practically the same. Briefly the details of the operation I now employ are as follows : An incision of half to three-quarters of an inch—not more—is made over the cord on a level with the upper border of the root of the penis, that is to say, over the external abdominal ring. The whole of the spermatic cord except the vas deferens is pulled out of the wound (the veins are not laid bare, the spermatic fascia only being exposed) by means of an aneurysm needle or hook, which is passed around between the vas deferens and the rest of the cord. The essential point here is that the veins are not denuded, they are only seen through the translucent fascia ; inside this fascia, with the veins, is generally the spermatic artery. Having pulled the loop out through the wound in the manner mentioned, the next step is to tie a stout ligature of carbolised catgut around the proximal end of the portion of the cord. This having been done, the distal part of the loop is seized with pressure forceps, and the loop divided below the upper ligature, a good stump being left. The portion gripped by the forceps is then turned back, separated from any fibrous connections which happen to cling about it, and drawn out from the wound until the upper end of the epididymis appears. In advance of the epididymis there comes, arching up through the wound, a rounded whitish cord, which is the vas deferens. Having seen the arch of the vas deferens projecting upwards in this fashion, a second ligature is placed around the pulled-out portion of the cord just above it. The cord is then severed above the ligature. All that remains to be done now is to unite the ends of the two stumps. These are drawn out a little more, placed in contact and sewn together by means of kangaroo tendon or catgut. The united stumps are

then returned into the wound, when they will be found to fall back into the sheath of the cord almost like the way in which a piece of gut drops back into the peritoneum ; the bringing together of the superficial wound by fine silk completes the operation. As a rule, the proceeding is a dry one, for hardly a drop of blood is lost, and, as I have said, the wound does not exceed three-quarters of an inch in length at the most. The wound in the skin heals generally by first intention if the parts are properly cleansed before the operation, and provided that it is made high up so that it does not encroach upon the scrotum proper—a very important point. That, I believe, is the best operation for the cure of varicocele. It is simple, and cures with certainty, for the reason that if it is properly done recurrence is impossible, seeing that no veins are left in which recurrence can follow.

Wasting of the testicle after operations for varicocele certainly should not occur. Occasionally, however, wasting happens, although I have never known a case occur in my own practice. I have no doubt that wasting of the testicle is more likely to occur if the veins only are dealt with in the operation than when the principal sources of arterial supply are obliterated with them. It is also certain that fatty degeneration of the tissue of the testicle which follows sometimes after operations for varicocele is more likely to occur when all the veins are removed and the full arterial supply left intact than when the arterial supply is proportionately diminished.—*British Medical Journal*, March 2, 1901.

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#### 104.—TUBERCULOSIS OF THE TESTICLE.

By JOHN B. MURPHY, M.D., Chicago.

[Dr. Murphy thus deals with the differential diagnosis :]

In acute cases, where the symptoms come on suddenly and with great intensity, the diagnosis from gonorrhœal epididymitis may, at first, be difficult. The principal points to be considered are :—(1) The presence of an active gonorrhœa, the discharge of which may have suddenly disappeared just before the onset of swelling in the epididymis. (2) Examination of opposite epididymis, vesiculæ seminales and prostate shows absence of nodules. (3) Previous history of patient. In tubercular disease there is frequently a history of recurring mild attacks of epididymitis, or enlarged cervical glands in childhood, osteomyelitis, &c. These are more likely to be absent in the gonorrhœal cases. (4) Occasionally it may be impossible to make an immediate diagnosis, and in these we must await further developments, which will occur after the acute swelling



has subsided. The tuberculin test might be valuable here, and in all cases where a urethral discharge is present a bacteriologic examination should be made.

*Syphilis.*—This disease may affect either the testicle proper or the epididymis, or both, in which latter case they are simultaneously involved.

*Syphilis of the Epididymis*

1. Infrequently localised.
2. Diffuse or nodular enlargement, usually the former.
3. Epididymis not sensitive to pressure.
4. Almost always painless.
5. No thickening of the spermatic cord.
6. Vesiculæ seminales not involved.
7. Usually no vesical symptoms.
8. Rapid disappearance of lesions under KI and mercury.
9. Frequently evidence of syphilis elsewhere in the body.
10. No tubercle bacilli in the urine.

*Syphilis of Testicle proper.*

1. Usually begins in the body of the testicle.
2. Usually diffuse involvement, rarely circumscribed.
3. Sinuses rarely present, and if they do exist, usually last but a short time.
4. Fungating form quite common.
5. Usually definite history of primary and secondary manifestations
6. Yields promptly to anti-syphilitic treatment.

*Tuberculosis of the Epididymis.*

1. Frequently localised.
2. Usually nodular. In most cases begins in globus minor, but may commence in globus major.
3. Almost always some tenderness on pressure.
4. Usually slight aching pain after exercise.
5. Spermatic cord frequently thickened and nodular.
6. Vesiculæ seminales may be nodular.
7. Almost always symptoms of vesical irritation and frequently hemorrhage.
8. Antisyphilitic remedies have no effect.
9. No such evidences; may be signs of old tubercular lesions in the lungs, glands, &c.
10. Tubercle bacilli may frequently be demonstrated in urine.

*Tuberculosis of Testicle proper.*

1. Body of testicle never primarily affected. Always secondary to epididymitis.
2. Disease nearly always circumscribed, having extended from the hilum.
3. Sinuses more common, and they persist indefinitely.
4. Rare.
5. No such history.
6. No effect from antisyphilitic treatment.

Sarcoma and carcinoma are anatomically two distinct and separate diseases of the testicle. Clinically and practically,

however, from the standpoint of diagnosis and treatment, they may be considered as one.

*Malignant Disease of the Testicle.*

1. Usually begins in the body of the testicle as a hard, smooth swelling, which later becomes soft.
2. Growth is very rapid, except in the rare scirrhus form.
3. May attain a very large size.
4. No inflammatory symptoms present during rapid growth.
5. Veins of scrotum enlarged and prominent. Skin thin and dark coloured.
6. Tumour not tender to pressure.
7. Vesical symptoms not marked.
8. If fungating, the ulcerated mass bleeds in a characteristic way.
9. Cord is much more often enlarged, and swelling is smooth and even.
10. Glands above and below Poupart's ligament may be involved.
11. May be metastatic tumours in lungs, abdomen, &c.
12. No tubercle bacilli in urine.

*Tuberculosis of the Testicle.*

1. Tuberculosis always begins in the epididymis as a nodular enlargement.
2. Growth is slow.
3. Never attains great size.
4. Usually some inflammatory manifestations, which may be violent, if mixed infection takes place.
5. Veins not enlarged. Skin, if affected, is thickened and adherent to the epididymis.
6. Nodules usually tender.
7. Vesical symptoms always prominent.
8. Ulcerating surface has no tendency to bleed profusely.
9. The cord is nodular and hard.
10. Almost never involved.
11. Sometimes evidences of old tubercular lesions elsewhere, as lupus scars, cicatrices in the neck, &c.
12. Bacilli often present.

In fibrous induration of the epididymis, due to some previous acute or subacute inflammation, the epididymis, while hard and thickened, is not usually nodular, history of the case is entirely different from that of a tubercular disease. Of the benign tumours of the testicle, fibromata, enchondromata and osteomata are of such rare occurrence that they need not be considered in the differential diagnosis. Enchondroma and osteoma are sometimes secondary developments in sarcoma, adenoma and myxoma. Myomata have been described, but are very rare. Adenomata, when they undergo cystic degeneration, may have to be considered in making the diagnosis. Hydrocele usually presents no difficulty in diagnosis, but it must be remembered that it is often a part of the tuberculosis of the epididymis and testicle, as is serous pleural effusion of pulmonary tuberculosis.—*Journal American Medical Association, November 24, 1900.*



## AFFECTIONS OF THE EYE AND EAR.

## 105.—BACTERIOLOGY OF THE CONJUNCTIVAL SAC, AND SURGICAL PROCEDURE.

By Dr. JAMESON.

Jameson (*Annals of Ophthalmology*, January, 1901) does not think the bacteriology of the conjunctival sac has received such attention in the past as it merits. As far as external conditions are concerned, he thinks there seemingly could be no better "anatomical sink" for the collection and propagation of bacteriological life than the conjunctival sac. His observations were taken from the secretion of fifty conjunctivæ, presenting in each case the average normal degree to be found in large cities where the dust, *débris*, and infective material in the atmosphere must of necessity produce a slight degree of hyperæmia. Cultures were made directly from the eye into gelatine and agar, and were at once plated out ; or by direct surface contact upon tubes of Loefflers' medium. Out of the 50 cases, 13 were found to be sterile. The plates containing infected cultures contained a varying number of colonies ranging from one or two minute particles to ten, twenty, or thirty colonies. The bacteria found in the sac and isolated were as follows :—*Staphylococcus pyogenes aureus*, *staphylococcus pyogenes albus*, *staphylococcus epidermis albus*, *ærobacillus citreus*, *xerosis bacillus*, *bacillus coli communis*, *bacillus subtilis*. Two of the yeast variety of *saccharomyces* and some others were found, but as they presented no pyogenic properties they have not, to this time, been identified.

The point of special interest is the presence in the conjunctival sac of the pus-producing organisms. The *staphylococcus pyogenes aureus* was found twice. The *staphylococcus pyogenes albus* and its kindred organisation, the *epidermis albus* of Welsh, were found in 16 out of the 50 cases, the *pyogenes albus* constituting 7 of that number. Of these organisms, the former is more virulent than the latter. That pyogenic bacteria are found in the conjunctival sac has been the experience of most observers. As opposed, however, to this apparent fact seemingly prejudicial to suppuration, Jameson mentions the following contradictions :—(1) The comparative rarity of suppurative conjunctival conditions taking the population as a whole ; (2) the relative infrequency of suppuration after operative interference even under adverse circumstances ; (3) the large proportion of sterile conjunctivæ found in the bacteriological

investigations of most observers. Jameson believes there must be some rational explanation of this immunity of the conjunctiva. He considers that the structural and functional properties by means of which the eye takes care of infective material may be discussed under the following heads:—(1) The property its normal epithelial surface possesses of resisting the inroads of infection. (2) The special property the phagocyte possesses in antagonising pyogenic or other bacterial life. (3) The properties of the lachrymal and conjunctival secretion itself when normal, of inhibiting growth of germ life. (4) The irrigative apparatus by means of which the eye is constantly doused by a steady flow from the lachrymal gland to the nasal duct.

It has been supposed that on account of the relative sterility in the lachrymal sac in a large proportion of cases the secretion possessed some antiseptic property in itself to inhibit germ life. The writer collected, with difficulty, thirty minims of human tear secretion. He made a series of investigations, details of which he records, and deduces from these experiments that while the tear secretion is not the best possible medium for germ life, it is capable of sustaining certain forms for a limited period, and others seemingly flourish continually in it. The writer believes that the irrigative function of the eye, by means of which the eye is constantly doused in steady flow, is a most valuable one. He records the following experiment:—A guinea pig with a normal conjunctiva having been secured, a culture of the secretion on agar was obtained. The conjunctival sac was then inoculated by a platinum loop containing the bacillus prodigiosus, an organism selected by reason of its easy recognition, presenting a bright red hue in culture. Successive cultures were taken every half-hour at first, and at longer intervals later. The shortest period which this flow took to dissipate this organism was twenty-four hours, and in one case it was some two and a half days in disappearing. It is just possible, however, that the pig reinfected his eye by contact with portions of the cage where he had previously deposited, in this latter case.

As to the bearing of the writer's observations on operative procedure, he considers that notwithstanding that we have valuable agents in the eye it is desirable, nevertheless, to have the conjunctival sac in the best condition for them to perfectly complete their work. These must, of necessity, prevent introduction of germ life from without and the elimination from within. The first can be accomplished by adopting the same *regimen* which modern general surgeons follow in the preparation of the operative field, both with regard to person and instruments, and also the surrounding portions of the orbit; the latter by use of such solution as will thoroughly wash out the *cul de sac* without diminishing resistance.



He summarises his points as follows :—(1) That the pyogenic or pus-producing organisms are found in the normal conjunctival secretion, although probably in attenuated form. (2) That under normal conditions they do not propagate. (3) That the eye under normal conditions is bountifully supplied with means of antagonising bacterial growth. (4) That diminished resistance such as occurs in inflammation of the membrane in operative interference, alters the nutritive value of the secretion and probably converts it into a more suitable media for germ life. (5) That the secretion in front of the eye is not an antiseptic in itself. (6) That strong antiseptics in the conjunctival sac diminish the resistance and place the eye on a lower plane to resist germ invasion. (7) That much attention should be given to washing out the residual bacteria prior to operation. (8) That as much care should be taken in regard to antiseptics and cleanliness in the external preparation of both patient and operator as is adopted by the general surgeon of modern times, as, while the danger of suppuration is most remote, the result, if it occurs, is more dangerous.—*Mr. Simeon Snell's abstract in the Quarterly Medical Journal, May, 1901.*

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## 106.—THE EXAMINATION OF THE EYE.

By PERCY FLEMMING, M.D., B.S., F.R.C.S.,

Assistant Ophthalmic Surgeon, University College Hospital.

[From Dr. Flemming's paper on the External Examination of the Eye :]

The examination of the palpebral and ocular conjunctiva may be quite simple, but in acute cases, and especially in children, the lids may be so tightly closed (blepharospasm) that it is no easy matter to separate them, and, of course, it is just in such cases that examination is all important. In these cases the lids are best separated by placing the thumb or forefinger of each hand on the lids, as close as possible to the ciliary margin, the child being recumbent, and to press the lids back against the globe at the same time as the thumbs or fingers are gently withdrawn from one another; in this way the lids will be prevented from everting—an event which is sure to happen unless the pressure is made backwards, and if the fingers be applied to the surface of the lid. In a simple case one first gently pulls down the lower lid and examines its lining conjunctiva; then by further pulling down, the patient looking up at the same time, examine the fornix or region where the

ocular passes into the palpebral conjunctiva ; next examine the bulbar conjunctiva, and finally complete the examination by everting the upper lid to examine its lining conjunctiva and fornix. To evert the upper lid tell the patient to look down, then place the index finger on the lid above the tarsus, and by a little downward pressure make the upper lid just ride over the upper margin of the lower lid ; then place the thumb below this projecting edge of the upper lid and bend the lid back on the index finger which has kept its place above the tarsus. This method is quite easy to acquire, and I think simpler than seizing the lid by the lashes and bending it over a probe.

In the examination of the pupil one first takes note of its size, and if abnormally large or small measures it by comparing it with a millimetre scale held close to the eye ; at the same time one would notice the relation of the pupil to iris, whether central or eccentric, also its shape, and whether both pupils are equal. The pupil reacts to three kinds of stimuli ; first, it contracts on exposure to light and dilates in the shade ; secondly, it contracts in association with efforts of accommodation, the latter being usually, though not necessarily, combined with movements of convergence ; and, thirdly, it dilates when the sympathetic in the neck is stimulated or when the skin over it is pricked, or pinched, or faradised. Thus there are two reflex movements of the pupil (to light and cutaneous stimuli) and one associated movement. To test the reaction to light the patient is made to face the light, the observer covers both the patient's eyes, and then rapidly removes one hand and notes the movement of the pupil, whether it contracts at all, and if so, whether the movement is performed slowly or briskly, and whether the contraction is maintained. The other eye is treated in the same way. But it is possible for one pupil to remain motionless when exposed to light, and to contract readily when light falls into the other eye ; this is called the consensual reaction to light, and should always be tested for in cases in which one pupil does not react to direct stimulation. Lastly, the skin in the neck is pricked, *e.g.*, with a quill and dilatation of the pupil looked for ; it is important in trying this reaction to have the pupil exposed to a moderate light only. Usually loss of sympathetic (skin) reflex is associated with loss of light reflex ; but loss of the latter may occur with retention of the associated movement (reaction to accommodation). Further, though the ciliary muscle be paralysed (as in diphtheritic paralysis), yet the pupil may react in response to mental effort to look at a near object, *e.g.*, the patient's own thumb. Cocaine dilates the pupil through the sympathetic, and in suspected cases of sympathetic paralysis this reaction should be noted. Before drawing any conclusions as to mobility or otherwise of



the pupil, the presence of synechiæ must be noted. Synechiæ are of two kinds—anterior and posterior; the former are adhesions of iris to cornea, and are easily seen; the latter are adhesions of iris to lens.

In a case of squint there may be no difficulty in determining which is the fixing eye, but in other cases this may not be so obvious. In these cases ask the patient "to fix" an object held about eighteen inches from the eyes, and then cover with a card first one eye and then the other: if each eye remain quite steady under these conditions there is no squint, but if, on covering one eye, the other one moves "to fix" the object, obviously it was squinting before. When the squinting eye is made to fix, the sound eye will deviate behind the card held in front of it; this is spoken of as secondary squint or deviation, and in all cases of paralytic squint it is greater than the primary squint, *i.e.*, the squint, when the sound eye fixes.—*Medical Press and Circular*, March 6, 1901.

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#### 107.—TUBERCULOSIS OF THE CHOROID.

By CHARLES STEDMAN BULL, A.M., M.D.,  
New York.

[From Dr. Bull's paper on Tuberculosis of the Eye:]

Tubercles in the choroid were first recognised by von Jaeger in 1855, shortly after the invention of the ophthalmoscope. They were supposed to be always secondary growths till 1873. They are met with under two forms: the miliary or disseminate tubercle, and the solitary or circumscribed. The former are usually found in the posterior part of the fundus, and the latter in the anterior part. They are most frequent before the age of twenty, and much more common in children than in young adults. The miliary form is met with in general acute tuberculosis and in tuberculous meningitis, while the circumscribed large masses of infiltration occur in chronic tuberculosis.

Miliary tubercles nearly always occur in both eyes. They vary in size from 0.5 mm. to 2.5 mm. in diameter, and are usually found in the vicinity of the optic nerve and macula lutea. They appear as round spots, pale yellow in colour, with a pinkish zone shading gradually at the margin, and later become grey in colour and somewhat prominent. They resemble recent patches of choroiditis disseminata. They start in the deep layers of the choroid, growing from the adventitia of the larger vessels, and, as a rule, cause no defect of vision.

The older, large tubercles show under the microscope giant cells surrounded by a circle of nuclei, and these in turn are surrounded by a reticulum of fibres with small-cell infiltration, caseation, and extravasation of blood. The newer and small tubercles appear to be collections of lymphoid cells between the vessels. Bacilli are by no means always found. Their presence in the choroid has no connection with the presence of tuberculous meningitis. They are said to be common occurrences in miliary tuberculosis, but the writer believes this to be an exaggeration. It is probable that tubercles of the choroid which are visible with the ophthalmoscope belong to the terminal stage of general tuberculosis, as they often develop shortly before death. Owing to the small size of miliary tubercles, their tendency to develop in young children, and the consequent difficulty of examination, they are much oftener found after death than before it. Those which are readily visible with the ophthalmoscope are usually from six to ten in number, though they may reach as high as thirty or forty.

When the tuberculous deposit is in the anterior segment of the choroid and takes on an acute process, it resembles an irido-cyclitis, and is accompanied by extensive destructive changes. It consists of a mass of tuberculous matter, which generally undergoes caseation, suppurates, and perforates the eyeball. The bacilli, when found, are relatively very few. Chronic tuberculous tumours of the brain are sometimes accompanied by tubercles of large size and slow growth in the choroid, which gradually fill the eye and simulate malignant tumours. They tend to perforate the eyeball, usually anteriorly in the ciliary region, but sometimes extend backward along the sheath of the optic nerve. Extension downward along the same course from a tuberculous mass in the brain has been known to occur, but is not common. General tuberculous infection from these cases has been observed only when the eyeball has ruptured, and the orbital tissue has become infected. Hence the advisability of an early enucleation. The chronic miliary form progresses slowly and insidiously, the capillaries become obliterated, there is no pain, and very rarely any external evidence of disease, such as episcleral injection, is observed. It should not be forgotten that while miliary tubercles of the choroid are sometimes found in connection with the tuberculous meningitis, they are more frequently met with in general tuberculosis without meningitis. In any case they are comparatively rare, and while their absence is of no significance, their presence is valuable evidence of general tuberculosis. Owing to their rapid development, ophthalmoscopic examinations in suspected cases should be frequently and repeatedly made.—*Medical Record*, December 8, 1900.



## 108.—IMMATURE CATARACT AND ITS TREATMENT.

By G. E. DE SCHWEINITZ, A.M., M.D.,  
Philadelphia.

[The following are Dr. Schweinitz's conclusions :]

(1) Certain lenticular opacities, most often situated in the naso-inferior quadrant of the lens, occasionally are practically stationary and may be designated "non-progressive." They do not handicap the patient's ocular abilities, and may with propriety be separated from the class to which the name incipient cataract is ordinarily given. (2) Certain lenticular opacities undoubtedly depend, as Risley and others have shown, on what may be designated "disturbances of the choroid" as apart from active and actual choroiditis; and their progress is sometimes apparently checked by measures—optical, local and general medicinal—which restore the choroid coat to normality. Such measures do not, however, remove from the lens the opacities which have already formed when the patient comes under treatment. (3) Certain lenticular opacities which appear in association with diabetes mellitus, nephritis, lithemia and arterio-sclerosis, particularly the last two diseases, are sometimes apparently retarded, like those in No. 2, by measures which are suited to the patient's general condition in connection with local and optical therapeutics; but these measures never dissipate the lense-lesions already present. (4) Certain lenticular opacities produce not only prodromal myopia but very high degree of astigmatism, the correction of which may result temporarily in a surprising improvement in visual acuity. (5) Certain lenticular opacities cause an obscuration of vision that may be largely dissipated temporarily by providing the patient with glasses moderately tinted which give the best visual acuity during mydriasis, and maintaining this mydriasis with a mild mydriatic. Sometimes, under these circumstances, the mydriasis seems to hasten maturation: this fact should be explained to the patient. (6) Certain lenticular opacities, especially in the form of striæ of refraction, cause an obscuration of vision which is somewhat relieved by maintaining a mild myosis with weak solutions of one of the myotics. (7) If the vision of eyes suffering from incipient cataract of the nuclear type is improved by mydriasis, this is not a sufficient indication for optical iridectomy, unless the patient finds by observation that the increased visual acuity, as noted by test-type examination, is also advantageous in pursuing his ordinary occupation. (8) The extraction of unripe cataracts is preferable to any of the ordinary operations for ripening cataract. (9) There is no evidence that electricity has the slightest influence in checking

the rate of progress of incipient cataracts, or in dissipating the opacities which have formed. (10) If there is any evidence that massage of the eyeball favourably modifies the rate of development of cataract it is still very insufficient ; there is some evidence to show that massage sometimes hastens the opacification of the lens. The subject demands further investigation. (11) There are no "specific remedies" for the treatment of cataract, and there is no reliable evidence that drugs exist which cause the absorption of partially or fully formed cataracts. (12) All lenticular opacities, unless perhaps those which belong to the so-called non-progressive group, should be regarded as indications for a thorough investigation of the patient from the general as well as the ocular standpoint, and for an employment of remedial agents—optical, local, medicinal—according to the findings. — *Journal of the American Medical Association*, December 8, 1900.

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### 109.—TOBACCO AMBLYOPIA.

By JAMES KERR, M.A., M.D.,

Honorary Surgeon, Bradford Eye and Ear Hospital.

[From Dr. Kerr's paper, which is based on fifty consecutive cases seen in 1900 :]

Tobacco amblyopia generally occurs in men, rarely in women. The age from 45 to 55 is commonest, embracing about 45 per cent. of the cases. It may occur as early as 26 in a man who has smoked half an ounce daily for two years ; or may be seen as late as 86 in a man who has smoked a similar amount for many years. Patients are generally smokers of three ounces or more weekly of the coarse and dark kinds of tobacco ; thick twist, dark shag, and honeydew are the most commonly mentioned. Some use as much as one ounce daily. Many also chew. It is not a necessary result of smoking, many men coming for other eye mischief who have smoked three to five ounces weekly without any trace of consequence in their vision. The disease may show itself insidiously, progressing for months, or come on rapidly in a week or two, as failure of central vision ; it is always painless. A quarter of the cases complain of difficulty in reading the newspaper, but distant vision is affected as well as near, and another quarter of the cases complain of a mistiness, a dimness or cloudiness. This may also be referred to as a blaze of light, or a shimmering over objects, one patient stating "bright linotype has dazzled my eyes," another "the eyes dither." Some think that they see better in the dusk, which is a symptom commonly elicited on inquiry. This was



put in a reversed way by one patient, who complained that he could not see well in the mornings. The light sense is reduced, and faces especially look smudgy and washed out, probably also from want of recognition of the red in the flesh tints. On testing the acuity of vision it is very poor, often less than 6/60—say about equal to counting fingers two yards off, and scarcely improved by glasses. Retinoscopy shows at least three-quarters of the cases to be hypermetropic, and this amounts to three dioptries or more in a quarter of all the cases. It is interesting, as hypermetropes are supposed to be more liable to glaucoma, to optic neuritis, and a congested appearance of the nerve head is recognised as a usual accompaniment of such cases. In about one-third of the cases some atrophic tendencies are noted in the fundus, the outer half of the disc generally being very pale, and in a few the arteries markedly narrowed. The limit of the field of vision for white is fairly normal with tobacco amblyopia, with simple glaucoma where central vision had failed to a corresponding extent, or in optic atrophy there would be considerable contraction, particularly in the nasal part of the field. A chart must be made of the field—the rough method with hand movements used in the medical wards is quite useless here. Having taken the field it should be checked, the contracting field met with in hysteria, traumatic neurosis and alcoholism sometimes leading to error. To detect these things the perimeter is necessary but not always at hand; fortunately we have a simple test which clears the ground at once.

In tobacco amblyopia the lesion is at first limited to the macula, or the macular bundle of the optic nerve, so that there is at the macula and around it a region where colours are not well recognised, and at the macula itself an exceedingly small area where even white is not distinguished, the result being that the exact object looked at is not seen; for instance, the small letters of newspaper print when looked at remain invisible. This is a negative scotoma. In the region of the field around this objects are seen, but their colours are not clear, red being the most troublesome (a scotoma for red) and green next (a scotoma for green). To detect the scotoma a little black square of cardboard with a square centimetre in the middle coloured red is shown to the patient; he may call the colour brown, or drab, or gold, according to the intensity of the scotoma, but he does not call it red—and sometimes cannot distinguish it, except as lighter or darker than a similar square coloured green. The green he may recognise, or more usually calls it yellow, white, grey, or silver.

On looking over the notes of cases these colour affections in several have presented difficulties in detection. In one case the

scotoma was not found till tried in dull light. It is advisable to use smaller objects—a pin-head tipped with coloured wax, for instance—to try in reduced light, and as one eye is sometimes more affected visually, to try each eye separately. Apart from great unilateral differences in vision, one eye often shows the colour scotoma better than the other. In one instance there was a red and green scotoma in the right eye, and only a green scotoma in the left—a most unusual combination. This disease originates in tobacco, but many debilitating causes may contribute to its onset. Alcoholic excess is frequently associated, its importance probably exaggerated. Australian horses, which eat wild tobacco and become amblyopic, are certainly free from the suspicion of alcoholism. Nervous symptoms in tremor, rarely general, but common in the hands and tongue, are present in at least 10 per cent. and may be partly alcoholic.

Cataract was present in four cases ; two had had it extracted, without corresponding results, and then inquiry led to tobacco excess being found. In one the failure of vision was greater than the cataract accounted for. The combination of glaucoma and tobacco amblyopia is to be remembered, and glaucoma may actually be a predisposing cause. Glaucoma was certainly present in seven cases, and in two iridectomy was done. With one patient the post-operative improvement in the peripheral extent of field was so great that other causes had to be looked for to account for the failure in central vision, and tobacco was then detected.

The toxic effects on the eye from years of the tobacco habit are not associated with the acute symptoms on digestive system or heart muscle seen in those who are unhardened in smoking. Besides glaucoma and cataract, which, like alcohol, may be mere associations, hypermetropia, which occurs too frequently to be accidental, there are other associations generally of a debilitating nature. Relapses are rare, but in two cases occurred after influenza. In another case the fields of vision present two lesions overlapping. A slight stroke eighteen months ago has left the upper and right quarters amblyopic, but there are large central scotomata for colours. For two years he has smoked half an ounce daily, and were the lesion entirely central the outlook would be bad, but in reality considerable visual improvement is to be expected.

The treatment is to stop all use of tobacco. The vision may deteriorate for a week or ten days. It should soon begin to improve, and in two months very definite improvement should have taken place. It may be expected to continue for months, and possibly be hoped for up to six months at least. Strychnine appears to hasten the improvement ; it is said also



to relieve the desire for tobacco, to relieve which some have proposed nicotine-free tobacco. Some, but very few, may, if it be due to debilitating causes, improve without discontinuing the tobacco, the improvement depending on general health. Others go on using the weed and get no worse, as in one patient who relapsed after influenza. Or reducing the tobacco may only give a slight improvement, and then the amblyopia remain stationary. Possibly a few who continue to smoke may go on to atrophy as a permanent change. It is well to be particular to look for tobacco blindness and exclude it, especially when other complications are present, which might easily lead to its being overlooked, because, where so masked, a hopeless prognosis may be given when, by its detection, rapid improvement is likely to be got to the satisfaction of both doctor and patient.—*Quarterly Medical Journal*, May, 1901.

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#### 110.—CASE OF CAVERNOUS ANGIOMA OF THE ORBIT.

By A. L. WHITEHEAD, M.B., B.S. Lond.,

Ophthalmic and Aural Surgeon to the General Infirmary, Leeds.

Cavernous angiomata of the orbit are sufficiently rare to justify the reporting of individual cases ; moreover, the one now recorded presents special features of interest.

On July 11, 1900, I saw in consultation with Dr. Wear, Mr. R. N., aged 51, a man of medium height, average build, and in good general health. His right eye was pushed forward by a rounded elastic tumour lying apparently behind the eyeball, and filling the outer and upper portions of the orbit. The proptosis was so extreme that the lids could not be completely closed, and ulceration of the lower portion of the cornea from exposure had already set in. The pupil was dilated, and the movements of the eyeball were almost lost. On separating the lids the tumour could be seen through the conjunctiva above the globe as a bluish-black, lobulated swelling. No pulsation could be felt, the tumour was not compressible, and there was no variation in size either spontaneously or by interference with the circulation. The growth did not seem to be intimately attached to the walls of the orbit. Vision was 6/60, and the fundus appeared healthy, the physiological cup being very deep. The history was that of gradually-increasing prominence of the right eye, first noticed about ten years previously, no pain or particular discomfort being experienced until fourteen days before being seen, when the eye became painful, probably from the corneal ulceration which then occurred.

*Operation.*—On July 14, the patient being under ether, I divided the external canthus to the margin of the orbit, and the conjunctiva to the margin of the cornea. Tenon's capsule was dissected up, and the external rectus raised and divided, a suture being attached to each end.

The tumour was then exposed, and with some little difficulty removed *en masse* without any injury to the eyeball, although the posterior portion of the growth almost encircled the optic nerve. There was very little hemorrhage; pressure forceps were placed on several vessels, but it was not necessary to apply any ligatures, the bleeding not being renewed when the clips were removed. The divided ends of the external rectus were united by two silk sutures, and the incision in the conjunctiva and external canthus closed.

*Progress.*—The patient made an uneventful recovery, his vision rapidly improved, and is now 6/9, and there is almost complete range of movement of the eye in all directions. The pupil is still somewhat dilated and accommodation is very feeble on that side, probably from interference with the lenticular ganglion.

*Description of tumour.*—The tumour measured 5.4 cm. antero-posteriorly, and 3.7 cm. in its greatest diameter; it consisted of three main lobes, the largest about the size of a walnut, and the smallest as big as a hazel-nut. Each was covered by a thin fibrous capsule, and was composed of a fine network of connective tissue, varying in quantity in different portions of the tumour, enclosing small alveolar spaces lined by flat endothelial cells, and containing masses of red blood corpuscles. The growth is clearly a cavernous angioma of the fibrous variety.

Simple angiomas connected with dilated vessels in the lids or neighbouring parts are easily recognised, but until von Graefe in 1863 described a case of cavernous angioma, the actual existence in the orbit of this variety had been seriously questioned. Neese has recorded one case and collected a list of nearly fifty cases, and attempted to classify the symptoms. One of the most characteristic signs is the absence of pain. In only two cases was pain complained of, and in my case it was due to the corneal ulceration. The slowness of growth is also a very important sign; in one case the growth had been known to exist for 19 years, and in the present case the prominence of the eyeball had been noticed for at least ten years. The mobility of the eye is usually preserved, but in this case it was almost lost from the unusual size of the growth. In most cases the tumour is elastic and compressible, and tends to vary in size. In my case the growth was certainly elastic, but moderately firm, incompressible, and did not vary in size. In these points it resembles Neese's case, and also a case recorded by Knapp. In both there was a predominance of fibrous tissue which Neese remarks has not been recorded in any other case. In most cases the growth is not adherent to the orbital walls. Lastly, the general health is unaffected. Five cases are mentioned by Neese in which the eyeball was preserved, but there is no information with regard to the vision of the eye.

My case is unusual in the size of the growth, the amount of fibrous tissue present, and the preservation of the eye, with practically no deformity, and with restoration of almost normal vision.—*British Medical Journal*, April 13, 1901.



## III.—THE DIAGNOSIS OF PAIN IN THE EAR.

By MACLEOD YEARSLEY, F.R.C.S.,  
Surgeon to the Royal Ear Infirmary.

[From Mr. Yearsley's paper :]

Pain in the ear is a symptom for which the general practitioner is frequently consulted, and it owns a multiplicity of causes. Upon its early diagnosis depends success in treatment, for the non-recognition of the disease from which the pain arises may in some cases lead to results irreparably disastrous, which might with ease have been averted by timely measures.

[The author considers the subject under the following headings :]

(1) *Pain referred to the ear.*—When this occurs without deafness or inflammation, it is usually due to some reflex cause, such as the irritation of a carious tooth, disease of the tongue or pharynx. In the great majority of cases a tooth is the offending cause. Pain, accompanied by deafness, or inflammation, or both, may be due to several causes. Pain, the result of foreign bodies, collections of cerumen or keratosis obturans, is easy of diagnosis, since the examination of the affected ear will at once clear up the case. The pain in such cases may be referred outside the ear, as well as to the ear itself. Pain accompanied by deafness and inflammation may be further divided into two groups, according as the external or middle ear is affected. In the former the deafness is usually moderate, and follows the pain. If the pain is not severe, the meatus red, tender, and swollen, its walls bathed with a slight amount of discharge, and the introduction of the speculum moderately painful, the condition is one of diffuse external otitis. The symptoms of the circumscribed form (aural furuncle) are much more marked. The pain is paroxysmal and severe, usually worse during the small hours of the night, waking the patient and preventing further sleep. The introduction of the speculum is practically impossible on account of the pain it causes, and close inspection reveals the presence of furuncles. The amount of deafness, too, is greater than in the diffuse inflammation. When pain is due to the involvement of the middle ear, deafness is considerable from the commencement. The amount of constitutional disturbance is the best guide in forming a diagnosis. In acute simple otitis media and in acute myringitis the constitutional disturbance and the temperature are moderate. In the former disease the pain is severe, worse at night, aggravated by movement and swallowing, and accompanied by tinnitus of a throbbing, hammering character. The deafness is more marked than in simple myringitis, and can be relieved by gentle inflation of the

tympanum. Acute myringitis occurring by itself is, as has been pointed out in a former article, uncommon. When it is present the pain is severe, deep-seated, extensive, and accompanied by throbbing and tinnitus. There is great sensitiveness to sound, and the pain is aggravated, and the deafness increased, by inflation of the middle ear. Inspection will not give great help in distinguishing between the two diseases, as some amount of myringitis always accompanies acute inflammation of the middle ear. When pain is due to acute purulent otitis media, the constitutional disturbance is marked, and the temperature runs high. In children especially the symptoms are highly suggestive of meningitis, a fact which marks the necessity of an examination of the ear whenever the latter disease is suspected. Often, indeed, the child will indirectly draw attention to the seat of its trouble by putting its hand to the affected ear or refusing to lie upon it. Bulging of the membrane will usually be found, with often a yellowish tinge at its most prominent part. Unless prompt measures are taken, spontaneous perforation and an unnecessary degree of destruction will ensue.

(2) *Pain referred to the mastoid*, accompanied by local swelling, may be due to one of three conditions—inflammation of a mastoid lymphatic gland, mastoid periostitis, or cortical mastoiditis. The first may be at once disposed of; the swelling is circumscribed and movable, the pain is not great, and the cause of the involvement of the gland will be found in the scalp behind the ear, from which the mastoid glands receive their lymphatics. Mastoid periostitis is usually due to disease in the external meatus, and presents a swelling that is immovable, shelving down to the bone, and later becoming somewhat boggy. Cortical mastoiditis is the result of acute purulent inflammation of the middle ear. The swelling is obviously of the bone, and develops rapidly. The pain of deep mastoiditis is of a deep, throbbing, boring character. The condition is a complication of chronic middle-ear suppuration, sometimes of acute disease. Swelling is not infrequently absent, but when present, is due to hyperæmia and œdema of the skin. Constitutional disturbance may be marked, but rise of temperature is as often absent as present. The other symptoms of the disease have already been detailed in a former article, to which the reader is referred. Painless mastoid disease has been recorded, but is the exception.

(3) *Pain outside the ear and mastoid process*.—In this group are complications of ear disease most dangerous to the patient. They are accompanied by serious constitutional disturbance and derangement of the cerebral functions. Should the pain be diffused about the ear in the course of an acute suppurative otitis media, it may be relieved by incision of the membrane, with or without washing out of the middle ear *viâ* the Eustachian



tube. Should this measure not relieve the condition, and there is high temperature with retraction of the head, delirium, headache, vomiting, and constipation, the case is probably one of acute meningitis. If the trouble be one of septic infection, the temperature is of the "up and down" character, with a rigor, repeated within twenty-four hours, and there will be the usual symptoms of infection. With chronic middle-ear suppuration a different set of complications present themselves. All of them are formidable. Attacks of localised headache about the mastoid region should arouse suspicion of chronic mastoiditis, with the formation of cholesteatomata, the periodic headache being due to the hygroscopic swelling thereof referred to in a former article. Other causes of pain outside the ear and mastoid process are subdural abscess, encephalic abscess, and lateral sinus thrombosis.—*Medical Times and Hospital Gazette*, May 18, 1901.

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## 112.--ACUTE MIDDLE-EAR INFLAMMATION.

By P. MCBRIDE, M.D., F.R.C.P., F.R.S. Edin.,

Surgeon to the Ear and Throat Department, Royal Infirmary,  
Edinburgh, &c.

[The author relates an interesting case, and then discusses the following points :]

(1) *The connection between acute otitis media and affections of the nose and naso-pharynx.*—It is of course perfectly well known that acute nasal or pharyngeal inflammation may lead to suppuration of the middle ear. It is also known that marked adenoids, and possibly much enlarged inferior turbinals, may predispose to the affection. It is, however, not sufficiently recognised that there is a form of adenoids which practically produces no other trouble, but which may be responsible for recurrent attacks. In these cases the patient breathes perfectly; he may be subject to colds in the head, but they do not attract much attention. On examining with the rhinoscopic mirror, however, a layer of adenoid tissue is observed occupying the space between the Eustachian orifices, and apparently pressing upon their margins. On digital examination the lymphoid tissue will be felt, but it will be observed that there is not any great quantity present. In such cases, however, the recurrent acute ear attack will usually cease after the adenoid tissue has been removed. The relation between empyema of an accessory cavity and acute middle-ear inflammation has not, I think, been hitherto more than incidentally alluded to. The instance above described shows a very distinct connection, as it is hardly

conceivable that the rapid cure of a case which until the antrum of Highmore had been opened seemed going from bad to worse was merely a coincidence. It is of interest to note that the empyema of the antrum was on the right side, while the ear affection was on the left. It seems obvious that in some way the presence of free pus in the right choana affected the opposite ear, but I do not think that the *modus operandi* will repay speculative discussion.

(2) *What is the best method of treating middle-ear inflammation after spontaneous or artificial perforation has occurred?*—

I do not think that the new method of plugging the meatus with aseptic dressing after so far as possible sterilising the canal is at all suitable for all cases. In this instance the perforation certainly diminished in the two days during which such dressings were applied, and, as it appeared to me, on account of their application. In future I shall adopt this method with great caution, if at all, when the perforation is small and the membrane tends to bulge. It is of course now the custom to decry the use of Politzer's bag and even the catheter in all cases while suppuration is still going on. In the instance just described the former was certainly contra-indicated because of the presence of pus in the right choana, and possibly there was some risk in employing even the latter. In the average patient, however, where there is no recognisable infective secretion in the nose or naso-pharynx, and where drainage is difficult owing to the small size of the perforation I am still inclined to advocate both methods. If they seem actually beneficial I am not disposed to be deterred from their use, because they are hypothetically or even theoretically dangerous.

(3) *When should the question of mastoid operation be considered?*—There are two conditions which, after perforation has occurred, seem to me to indicate that the case will be troublesome—to wit (1) excessive discharge, and (2) a small perforation in a bulged membrane. When the discharge appears in such quantity that it is hardly conceivable that it can be all secreted by the lining membrane of the tympanum it will usually be found that after a varying period some tenderness, or even spontaneous pain arises in the mastoid region. If then Schwartze's operation be performed it will often be discovered either that the whole process is more or less softened and infiltrated with granulations or that the antrum is large and contains much pus. The former is the more common, and in my experience it is a frequent complication in influenzal otitis.

In the presence of a small pouting perforation and a bulged membrane, such as existed in the case recorded, the surgeon is often in great difficulties as to how best to obtain drainage. A free incision is valuable for the moment, but, as every



experienced aurist knows, it soon closes, and the condition is no better than before. The least indication of mastoid inflammation will give an excuse for operating, and I believe that given the above condition of matters persisting after other remedies have had a fair trial, this excuse should in the interests of the patient be taken immediate advantage of. It is, indeed, an open question whether the occurrence of pain should be awaited.

One word more as to the method of operating in these recent cases. It is of the utmost importance that the middle-ear structures should be respected, and for this reason I again repeat that Schwartze's method should be adopted, associated, if necessary, with the removal of any softened bone which may be found in the lower part of the process. If these rules be adhered to we commonly find that the discharge from the ear ceases, the membrane heals, and almost perfect hearing results.—*The Lancet*, May 18, 1901.

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### 113.—TUBERCULOSIS OF THE MIDDLE EAR.

By SEYMOUR OPPENHEIMER, M.D.,  
New York,

Instructor in Laryngology, University Medical College, &c

[From Dr. Oppenheimer's paper :]

The diagnosis of aural tuberculosis is of serious import, as upon the early recognition of the disease will depend to a great extent the future issue of the case. It seems best to study this aspect of the subject under three headings: First, the recognition of aural tuberculosis in a subject without general evidences of the disease, but in whom for obvious causes the middle-ear affection is suspected to be of a tuberculous nature; secondly, the recognition in an individual suffering from pulmonary tuberculosis of involvement of the middle ear, and, under this same heading, the diagnosis of the cause of an otorrhœa existing before the pulmonary affection developed. In the third class we have the differential diagnosis of a tuberculous otorrhœa from that occurring in conjunction with syphilis, lupus, diabetes, and new growths. In the first class of patients referred to there is usually a slight watery discharge from one ear, which has existed for several months, appearing without the knowledge of the patient, and at no time has there been the slightest evidence of pain. The hearing is but slightly impaired, and on examination, the membrana tympana will present several small perforations, round in contour, with the edges thick and everted, and, instead of the congested appearance seen in ordinary otorrhœa, the drum-membrane will be of

a blue-white colour, presenting somewhat the appearance of ground glass, with the addition of an œdematous element. Under these circumstances, the insidious development of the discharge and the absence of pain—strong emphasis being placed upon this point by Oaks, who says that, although the otorrhœa is of recent date, if there is no pain or other manifest symptom except the discharge, a tuberculous etiology is suggested—should immediately direct the attention of the otologist to the nature of the case. The importance of a prompt diagnosis in the incipency of the disease cannot be emphasised too strongly, as these are the cases that present the most favourable outlook as regards treatment.

Of the greatest importance, and the crucial factor in the diagnosis of tuberculosis in the middle ear, is the recognition of the tubercle bacilli in the aural discharge. In the patient with pulmonary or other forms of tuberculosis, and with subsequent otorrhœa, the diagnosis is greatly facilitated, and no serious difficulty need be apprehended in estimating the true nature of the case. The differential diagnosis from syphilis can be determined by the history of the case, the presence or absence of syphilitic stigmata elsewhere, the absence of the tubercle bacilli in the aural discharge, and the rapid disintegration and ulceration, not only of the middle ear, but also of the external canal in the specific affection. As the natural history of aural tuberculosis is such that extensive alterations may, and usually do, take place before attention is called to it, the usual prophylactic measures adapted to the prevention of the affection in other parts are rarely applicable. Of special prophylactic importance in this connection is attention to any abnormalities or morbid changes in the nose or throat, whether tuberculous or otherwise, and prompt attention should be given to attacks of myringitis or acute otitis media.

As I have emphasised in a previous article, the treatment of aural tuberculosis is essentially that of the treatment of tuberculous disease elsewhere. The signal note of success, if success is to be had at all, is in the use of such general constitutional remedies as seem best suited to the individual conditions. Locally, the treatment may be considered under two headings, surgical and medicinal, and the choice will depend upon the extent of the aural involvement, the presence or absence of tuberculosis elsewhere, and the general physical condition of the patient. Usually surgical measures are contra-indicated except in those very few cases in which there is no ascertainable tuberculous focus elsewhere and in which the area of aural infection is limited. When the condition of the patient is such that an operation is justifiable, it is essential that every portion of diseased tissue be removed and a free open wound be



allowed to remain. Even if the patient is in fair condition physically, it is of great value to place him upon general constitutional remedies and a nourishing diet for several weeks before recourse is had to operative measures, much better results being obtained in this manner than when the diseased tissue is immediately removed without special constitutional preparation. The local treatment may be summed up in the axiom—keep the parts clean and meet indications as they arise. The middle ear should be thoroughly cleansed with hydrogen peroxide, all pus and *débris* removed, and granulation tissue snared away or kept down by chromic acid. A non-irritating antiseptic powder may then be lightly dusted over the parts, or, what is still better and has given the best results in my hands, the local application of a thin film of iodoform and the use of iodoform-gauze packing extending well into the middle ear. Free drainage is favoured by this method, and, if the parts are kept thoroughly clean, quite favourable results are obtained. Buck douches the ear with tepid water, and then applies a non-irritating antiseptic powder.

Following the successful results obtained from the use of lactic acid in laryngeal tuberculosis, it may be used here in the same strength and manner, preliminary cocainisation, however, being necessary before any such applications are made. Any of the remedies used in non-tuberculous otorrhœa may prove of service, such as chloride of zinc, balsam of Peru, creosote in alcohol and glycerine, and absolute alcohol and carbolic acid; but it should always be kept in mind that, whatever form of local treatment is adopted, general constitutional measures are absolutely imperative.—*New York Medical Journal*, November 24, 1900.

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#### 114.—DISEASES OF THE EAR AND LIFE ASSURANCE.

That morbid affections of the ear, especially those of a suppurative character, have an important significance in their relation to life assurance is becoming more and more appreciated by the profession. Certain observers, *e.g.*, Von Tröltsch, considered that diseases of the ear were just as important from the insurance point of view as were valvular diseases of the heart, tubercular affections of the lung, &c. The main difficulty in determining their relative importance lies in the fact that it is very hard to estimate the real mortality from suppurative affections of the tympanic cavities and their adnexa. According to the Registrar-General's returns somewhere about 400 deaths

per annum are attributed to otitis and otorrhœa. It is certain, however, that such returns do not represent the true state of affairs, as undoubtedly deaths which are primarily due to septic infection from the ear are returned under such headings as abscess of the brain, meningitis, septicæmia, &c. There is no doubt also that the long continuance of suppurative otitis media has a baneful effect upon the state of general health, tending to undermine the constitution, and to make the individual less resistant, and therefore more prone to contract catarrhal affections, *e.g.*, pneumonia, which may be of a septic type (the same organisms frequently being found in the secretion from the middle ear and in the expectoration from the lung), and which may seriously imperil life. In the light of our present knowledge of septic disease of the middle ear and its complications, it is necessary to determine with as much accuracy as possible the local lesions present within the tympanic cavity, and to weigh carefully their relative importance. It is necessary to determine whether the life offered for insurance should be accepted upon ordinary terms, whether the policy should be weighted, or, finally, whether it should be refused entirely, or refused pending the results obtained after suitable treatment has been adopted. Certain insurance offices recognise this so fully that tables with special questions as to the condition of the ear are supplied. Thus the Scottish Widows' Fund and Life Assurance Society furnishes its medical referees with the subjoined list of questions to be answered by specialist:—(1) Is there now, or has there ever been, disease of the middle ear? Mention the date. (2) Does perforation of the tympanic membrane (including Shrapnell's membrane) exist in one or both ears? (3) Is the opening large or small, and where is it situated. (4) Is there now, or has there ever been, any discharge? Mention the date. (5) Did the discharge proceed from the meatus or middle ear? Has it ever been fœtid? (6) At what date did the discharge cease? Does any fœtor persist? (This is to be tested by introducing cotton-wool as far as the perforation). (7) Is there any evidence of necrosis or polypi? If so, have these latter been removed, and when? (8) Are there occasional attacks of pain either in or behind the ear? Have they been followed by discharge, and has this relieved the pain? (9) Is any treatment followed, or required? (10) What bearing has the ear disease on the eligibility of the life for assurance?

In cases of suppurative middle ear disease where the perforation is large, where the discharge is scanty and odourless, where there is no pain and no vertigo, where, in fact, surgical drainage from the affected part is good, a small addition to the premium—say of two to three years—will



answer the requirements of the case. Where, however, the perforation is small, situated high up in the membrane, and where there is evidence of imperfect drainage and consequent tension, the acceptance of the life should be postponed until suitable treatment has had a chance of arresting or materially modifying the disease. Owing to the great frequency with which "attic" perforations are associated with deep-seated and hidden caries of the surrounding bone, it will be found advisable to refuse such cases until suppuration has been arrested by treatment, and until the cavity originally affected has remained dry for a period of not less than six months. In cases where there has been suppuration, but where cicatrisation of the perforation has taken place, the life may be accepted upon the ordinary terms. Where there are obvious obstacles to the free exit of pus from the middle ear, *e.g.*, bone granulations, polypi, exostoses, stenotic conditions of the auditory meatus, &c., acceptance of the life should be deferred pending the results of treatment. In cases of middle ear disease, complicated by mastoid suppuration, the presence of mastoid fistulæ, deep-seated caries, cholesteatomata or signs of intracranial disease, the life should be unhesitatingly refused. When a person presents himself for insurance with a dry but non-cicatrised perforation of the membrana tympani, several other considerations besides the actual condition of the middle ear have to be taken into account. The risk in such persons, *i.e.*, persons with open perforations, is that recurrence of suppuration may occur with all its attendant dangers. In such cases the employment of the individual, his mode of life, his surroundings, and the state of his general health must be fully considered, for it is obvious that certain employments and certain surroundings will conduce much more to the risks of recurrence than will others. It is also important that the state of the pharynx, and especially of the nasopharynx, be looked into. Many pharyngeal and nasopharyngeal conditions predispose to ear trouble, and if ear disease is already present the chances of its recurrence under such circumstances are naturally much greater.

Bearing all these considerations in mind, the addition of a few years to the life of the proposer is not only justifiable, but is right in the interests of the insurance company. The ordinary catarrhal types of middle ear disease—the hypertrophic and the sclerotic—have little relation to the question of life insurance, except in those cases where the existing deafness is so great as to be a menace to the life of the individual. In such cases the risks attending severe deafness, *e.g.*, liability to street accidents, &c., should be pointed out to the company, and the case left with them to deal with. Malignant disease of the ear, either of its external, middle, or internal portions, would naturally render

the proposer ineligible. Disease of the internal ear, accompanied by attacks of severe vertigo, inco-ordination of movements, or by suppuration, should be regarded as absolute disqualifications. —*From Mr. Milligan's Summary in the Practitioner, April, 1901.*

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## AFFECTIONS OF THE SKIN, &c.

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### 115.— ERYTHEMA MULTIFORME AND VACCINATION.

By NORMAN WALKER, M.D., F.R.C.P. Edin.,  
Assistant Physician, Skin Department, Royal Infirmary,  
Edinburgh.

In the *Scottish Medical and Surgical Journal*, (April, 1901) I published a short note, with an illustration, of a case of erythema multiforme closely resembling small-pox. The difficulty of diagnosis was considerable, but we were greatly aided by the fact that the patient had been successfully vaccinated four weeks previously. It did not occur to me to connect the vaccination with the skin eruption. Since then four other cases have come under my observation, all of them recently vaccinated, and all showing features which seem to make it certain that the vaccination was causally related to the eruption. Curiously, with one exception, all occurred in persons more or less directly connected with the medical profession—doctors, students, or nurses.

My second case was that of a Queen's nurse, whose hands presented an absolutely typical picture of erythema iris. On questioning her, however, I found that the legs were also affected, and that the eruption spread up the arm beyond the usual limitation of erythema iris. When she removed her dress the vaccination lesions presented an appearance quite out of keeping with the time which had passed since the operation was performed. Although a month had elapsed the scabs were still moist, and they were surrounded by a raised erythematous patch of the same character as the eruption elsewhere.

The other cases were possibly not so perfect in their mimicry of the real disease, but having become familiar with the condition



I had no difficulty in recognising them. All presented certain features in common ; all were vaccinated with glycerinated lymph, and in all of them the early course of the vaccination was uneventful. In three of the five cases there was nothing more than a slight feeling of malaise. The eruption developed always on the hands and the face, but on other parts as well. At the same time the vaccination area showed evidence of fresh activity. In two cases the scabs had fallen off, and apparently all was over but coincident with the eruption fresh vesicles developed on the part, just as if the patient had again been vaccinated. The course of the erythema was uneventful, the eruption rapidly disappearing.

I have since discovered that I had overlooked a reference to this condition, which was incidentally mentioned in a discussion at the meeting of the American Dermatological Association last summer, which was published under the heading "Bullous Dermatitis in Children." In the discussion, Bowen of Boston gave notes of five cases following vaccination. He noticed the tendency to appear on the backs of the hands and feet and on the face, and he suggested that the condition was allied to dermatitis herpetiformis. White of Boston drew attention to the fact that the lesions appeared on regions most exposed to autoinfection. Corlett had noticed bullous eruptions appearing after vaccination, but had regarded them as closely related to impetigo. It is interesting to note that he had stated he had never observed the eruption after the use of glycerinated lymph. Gilchrist mentioned a case occurring at the Johns Hopkins Hospital, where a diagnosis of herpes iris had been made ; the temperature in that case rose to 103 deg. F. One of the lesions was excised, and sections suggested the presence of a toxin circulating in the blood. Other cases of erythema following very shortly after vaccination were referred to. These are obviously not the cases which have come under my care. Many of the American observers noted as I did, that the vaccination wound had entirely healed before the eruption appeared ; and I certainly incline to adopt the suggestion of Gilchrist that a toxin is produced which, circulating in the blood, produces, as many toxins do, that form of erythema which we know as erythema multiforme, and especially that variety described as erythema iris. I have heard of two other cases apparently similar, but it seems incredible that there have not been many more, and it would be interesting to know whether any particular stock of lymph is especially liable to be followed by such an eruption.—*British Medical Journal*, May 18, 1901.

## 116.—ECZEMA.

By MALCOLM MORRIS, F.R.C.S. Edin.,

Surgeon to the Skin Department at St. Mary's Hospital.

[The following are Mr. Malcolm Morris's remarks upon eczema at the menopause and in old age :]

*Eczema at the menopause.*—There are two special forms of eczema which occur at the change of life—and I am taking what I consider to be the commonest, those which come most before practitioners. The two forms at this stage are acute eczema of the head and face, which Jameson says are 75 per cent. of them. As regards that particular type, it comes at the change of life—that very variable period which may extend almost to any length of time. We do not know exactly when the nervous influences of change of life begin ; they may begin as early as at the age of 40 years, or even earlier. In those women who have had their ovaries removed all the phenomena of change of life are produced prematurely. I have recently seen a woman of only 26 years of age, who has had both ovaries removed, who has had all the phenomena of change of life just as if she were 48 or 50 years of age, and who is suffering from the skin troubles associated with that period. There is usually considerable flushing, sweating, and other nervous phenomena, headaches, and disturbances of the digestive tract—dyspepsia and constipation. A spare woman at that time of life suddenly begins to flush in the face, perhaps after taking a meal ; later the disorder becomes a little more acute ; she gets an acute eczema of the scalp, and it spreads down all over her face. For that condition there is no drug or combination of drugs, as far as I know, which is of such service to relieve the symptoms, not only the eczema, but all the symptoms mentioned, as ichthyol. If it is used in the right way it is an invaluable drug, and this is one of the diseases in which it is of the greatest possible use. It is a nasty-smelling drug, therefore every attempt should be made to disguise the odour. If it is given in the form of Burroughs and Wellcome's tabloids, which are covered with sugar, there is no difficulty on that score. It can be given in tabloids covered with keratin, which does not dissolve until it gets into the intestine, the result being that the patient does not get eructations of ichthyol. The doses should be two and a half grains to begin with after each meal. At the end of two or three days it should be increased to five grains, then to seven and a half grains, and then to ten grains. If the patient tastes it much the stomach has got more than it can digest. In that case the dose should be cut down a little. But the effect of the drug in clearing away the symptoms is very extraordinary.



With regard to local treatment, this form of eczema which occurs at the change of life requires rather more active treatment than is needed at any other time. Such cases usually bear fairly strong applications of sulphur and resorcin. The other form at change of life is the very acute eczema which occurs about the vulva and anus.

*Eczema in old age.*—There is a particular form of eczema in old people which is very serious. First of all, as the result of enfeebled vitality old people get an atonic condition of the skin, and with this a form of chronic eczema with short acute exacerbations which does not disappear in the way in which it does in earlier life. In the aged it may worry the patient nearly into madness by the constant irritation, which, in Macbeth's phrase, "murders sleep," prevents the patients from taking their food properly, and so wears them out. Professor Kaposi has called special attention to this matter of interference with the taking of nourishment. He says that the disease produces a vicious circle in this way : As the result of constant irritation and inflammation of the skin there is a reflex irritation of the intestines which prevents the food from being properly digested. The action of the bowels being irregular it reacts upon the condition of the skin ; there is thus a reflected condition from one side to the other. Whether it is absorbed from the skin and so into the blood it is impossible to say, but at all events their sufferings reduce these unfortunate people to the most dreadful condition, and it is not at all an uncommon thing for old people to commit suicide on account of their eczema. I have met with several cases of the kind. There is one drug for it, and only one as far as I know, and that is opium. As some philosopher has said, it is the drug of the aged, and we must not be afraid to use it. It is too much the fashion nowadays to be afraid of opium. If it is given at the right time it is one of the most valuable remedies, and the right time is past middle age. If aged persons do acquire the opium habit, what harm is this likely to do them ? They have not long to live in any case, and the drug may make their few days less evil than they would otherwise be. I have recently had a most striking case of a very old man who was brought up to me from the country by his medical attendant. The man's life is intolerable. What is to be done for him ? I have had a letter from the medical man, saying : " The remedy which you have given to my patient is of the greatest possible assistance." It was one-third of a grain of opium three times a day. He has taken it for some weeks ; and if he continues to take it to the end of his life what harm can it do him ? If we cannot cure the disease it is surely something that by means of opium we are able to give the sufferer relief from a condition which makes his life a burden to him.—*Lancet*, May 7, 1901.

# 117.—THE TREATMENT OF THE EARLY STAGES OF ACNE ROSACEÆ.

By WILLIAM J. MUNRO, M.D. Edin., M.R.C.S. Eng.,  
Sydney.

[From Dr. W. J. Munro's paper:]

Acne rosaceæ consists in a chronic engorgement of the vessels of the face, leading eventually to a lowering of the vitality of the tissues concerned, amongst these of the sebaceous glands ; hence secondary infection, with pus-forming organisms, is rendered possible, and an eruption of acne pustules results. This condition is met with only upon the face, and it more commonly occurs upon the central part. The treatment is divided into two parts : (1) Measures calculated to remove any general or systemic cause ; (2) those used to remedy the local lesions. The general measures are first directed towards the removal of all disturbances of the digestive tract. Though general treatment is of great service when combined with efficient local applications, yet it cannot be depended on alone to remove the disease ; and hence the latter assumes the greater importance. The objects of external treatment are : (1) to remove all effects of secondary infection, and prevent it recurring ; (2) to counteract the local capillary inertia, and the resulting tendency to blood stasis. There are many substances possessing suitable antiseptic qualities, which also are capable of causing sufficient irritation to produce a healthy vaso-motor reaction. As a preliminary, all pustules should be opened and emptied, and their orifices touched with liquid carbolic acid ; or, better still, the cavities washed out with a 1 in 20 solution of this substance, or 1 in 1,000 of sublimate, by means of a hypodermic syringe armed with a blunt-pointed needle. The face should be bathed every morning with water as hot as the patient can bear ; or, in some cases it is advisable to steam the affected parts. After this process has been continued for ten minutes, the face should be dried and sponged with a sedative lotion containing zinc oxide and calamine, which should be allowed to dry upon the skin. The bathing is repeated at night, and afterwards a slightly irritant antiseptic lotion or ointment applied. These mostly contain sulphur in some form, and the following may be quoted as fairly typical examples : Sulphur precip. 12 to 15 parts, spirits of camphor 12 to 15 parts, water 250 parts ; sulphur hypochloride ℥ii., pot. subcarb grs. x., oil of bitter almonds ℥x., lard ℥i. ; Erasmus Wilson's ointment ; a 1 per cent. solution of salicylic acid ; an alcoholic sublimate lotion (1/700), &c., &c. The strength of any application should



be modified according to the greater or less irritability of the patient's skin. The morning and evening processes are continued for from five to seven days, the period depending on the amount of reaction, and at the end of this time an interval of two or three days is allowed to elapse, during which only sedative lotions or ointments are used ; then the complete night and morning applications are commenced afresh, to be again replaced by the sedative line of treatment, and so on. In addition to these external local therapeutic measures, drugs are used internally, with a view of causing contraction of the over-dilated vessels, and hence to re-establish the normal vasomotor balance. Such substances are ergot, quinine, digitalis, ichthyol, &c. The latter is also used locally for the same end.

Notwithstanding, however, all care on the part of the patient, a period of three months under the ordinary treatment is usually required to bring about a cure ; and in many cases, even after care during this period, amelioration of this disfiguring disease is the only result. In some progress takes place up to a certain point—the pustules disappear, and the redness improves, but sufficient remains to be unsightly. Meeting many disappointing instances of this sort, both in private and in hospital practice, I was led to try and devise some more certain method of controlling the abnormal dilatation of the vessels. Arguing from analogy, I concluded that, if it were otherwise suitable, the use of extract of supra-renal substance would be likely to bring about the desired result. For this purpose I made a paint, consisting of one of Burroughs, Wellcome & Co.'s soloids of this substance, dissolved in  $\mathfrak{z}\text{i}$ . of sterilised water, with a small crystal of thymol added to prevent decomposition. On applying this locally, the first effect was to produce a vivid redness over the part, and the patient complained of a smarting sensation ; but this soon passed off, and was succeeded in about five minutes by a pallor of corresponding intensity. It was found afterwards that this preliminary hyperæmia usually only occurs upon the first application, or upon recommencing the use of the substance after having discontinued it for a few days. In the first case I ordered the paint to be applied each night after the hot bathing, and hence to remain in contact with the skin all night. Each morning the face was again bathed with hot water, dried, and the following lotion used : Precipitated sulphur  $\mathfrak{z}\text{ss}$ ., zinc oxide  $\mathfrak{z}\text{ii}$ ., calamine  $\mathfrak{z}\text{iii}$ ., glycerine  $\mathfrak{z}\text{ii}$ ., rose water to  $\mathfrak{z}\text{vi}$ ., the sediment to remain upon the face during the day. The sulphur in this preparation was used to prevent pustule formation, and the zinc compounds as sedatives. Within a fortnight after the commencement of this treatment there was a marked improvement, and six weeks later this patient was practically well. After experience proved that the

internal administration of the supra-renal extract tabloids materially helped the local measures. They were prescribed as follows : One of B. W. & Co.'s five-grain tabloids to be taken twice daily for three days, one thrice daily for the next three days, then two night and morning for a similar period, and so on until the number was increased to six daily. The patient was warned that if giddiness or nausea occurred, to reduce the dose, or if, in spite of this, these unpleasant symptoms still continued, to discontinue the drug for three or four days, and then recommence with a smaller dose. However, patients subject to these unpleasant symptoms are rather exceptions. In some cases after using the paint for some time, desquamation with slight superficial irritation supervenes. If this should occur the application should be left off for a few days, and an ointment consisting of ten grains of ammoniated mercury to the ounce of oxide of zinc ointment substituted. Of course during the time this local medication is being carried on, as in the other method of treatment, every care must be taken to remedy any general predisposing mischief. It is rather important to ascertain if there exists any local cause of vascular compression, and, if so, to remove it forthwith. As examples of this may be mentioned : a tight collar around the neck, heavy spectacle frames pressing unduly upon the nose. The few vessels that remain persistently enlarged may be destroyed by electrolysis.—*The Australasian Medical Gazette*, December 20, 1900.

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## 118.—THE LOCAL TREATMENT OF PEMPHIGUS.

By ARTHUR VAN HARLINGEN, M.D.,

Formerly Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine, Philadelphia.

[The author relates a case in a boy aged 5 years, and then makes the following remarks :]

On the twelfth day of the disease I instituted the following treatment : The blebs upon the left arm, which were so numerous as to be almost coalescent, were opened widely, and pieces of lint saturated with a solution of bichloride 1:2000 were applied, being covered with paraffin paper. The lower limbs were dressed with an ointment of borated vaseline. Within twenty-four hours the condition of the child appeared to be changed for the better. The temperature, which before the dressing was 102 deg., began to fall, until within a few days it



stood at 99.2 deg. At the same time the lesions which had been dressed with the bichloride solution seemed to improve more rapidly than elsewhere, the blebs drying up and the skin beginning to assume a more healthy appearance. Four days after the first application of the bichloride dressing the arm was well enough to apply an oxide of zinc paste, and the bichloride dressing was then applied to the other arm and to the lower limbs. The internal treatment at this time comprised for a few days 1/100 grain of strychnine daily, and later four grains of quinine daily. The delirium and weakness being marked, whisky in the dose of  $\mathfrak{z}$ j every second hour was administered at times. The patient was kept upon a milk diet. I avoided the administration of arsenic, since this drug being regarded as a specific in pemphigus, any beneficial effects which might follow the employment of the local treatment could be attributed to the internal medicine. During the earlier period of the treatment the child had marked brain symptoms. Delirium, followed by stupor, was almost continuous for some days, but with the improvement in the skin symptoms the stupor gave way to dulness, and gradually the intellectual faculties returned. The last period of high temperature was connected with a slight fresh outbreak of the eruption—about the twenty-third day of the disease. The temperature fell to normal about the thirty-sixth day of the disease. The condition of the skin improved steadily, and by the thirty-sixth day all eruption had disappeared. For two weeks no local treatment was employed, but after that time inunctions of olive oil containing one per cent. salicylic acid were practised daily for several weeks, after which the patient left the hospital. About six months later he returned to the hospital with a slight relapse, the blebs being chiefly confined to the legs. Wet compresses of bichloride solution (1 to 4000) were applied for forty-eight hours, and followed by a zinc paste. Under this treatment the blebs rapidly disappeared. The plan I have followed was suggested by the idea that the chief seat, and what might be called the laboratory, of the disease, or at least of the general symptoms accompanying it, lies in the blebs.

We do not know enough of the pathology of pemphigus to speak with any certainty regarding this matter, but there is good reason to suppose that in the blebs, when once fully developed, there goes on a formation of septic matter the absorption of which gives rise to the increase of temperature and other general symptoms observed. Consequently it seems the part of wisdom to abort when possible the development of the bullæ, and when this cannot be done to shorten the life of the developed bulla and to check its course as quickly as possible. This had been attempted in a partial manner by

opening the blebs and touching their bases with nitrate of silver or nitrate of lead, but without the distinct idea of sterilising them. My plan is to open each bleb as widely as possible, and to lay it bare by removing its covering. A wet dressing of bichloride of mercury 1 to 2000 or 1 to 4000 is then applied and kept in apposition from twenty-four to forty-eight hours. The dressing is then removed, and ichthyol, either pure or in a 20 to 50 per cent. aqueous solution, is applied. After a few days this is changed for a simple zinc oxide paste or ointment, or occasionally a euophen or iodoform ointment. When the eruption is extensive, one limb or a fraction of the surface may be treated at a time. Thus the arm may be undergoing the bichloride treatment while the leg is dressed with ichthyol, and the face or body with oxide of zinc paste. If there is any danger of absorption over a large surface, which I somewhat doubt, the above procedure would tend to obviate this. Other bullar eruptions and pseudo-pemphigus, which are much more common than the genuine disease, may be treated by this method, or at least on this principle, with decided advantage.—*Therapeutic Gazette*, March 15, 1901.

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#### 119.—PURPURA RHEUMATICA SUCCEEDING ANGINA.

[From a leading article in the *Medical News* :]

In the *Berliner klinische Wochenschrift*, November 5, 1900, A. Brück gives us the results of his own observations in the matter. Attention once directed more intently to the cause of the rheumatic affections, it became evident that many of them followed closely upon some slight or perhaps severe tonsillitis. The investigations showed that it was well within the range of probability that the portal for the entrance of the infecting organisms was the adenoid tissue of the tonsils. From this origin, they find their way by means of the blood-stream to the various localities to renew their pernicious activity. The presence of streptococci, staphylococci, and even of the pneumococcus of Fraenkel in the tonsils, the blood and the joints, has been clearly demonstrated. Following this reasoning, acute articular rheumatism would be nothing else than a rather mild form of pyæmic inflammation. The attending complications, *i.e.*, endocarditis, hyperpyrexia, hemorrhagic skin affections, all go to prove the conclusion.

The reason that in every case of rheumatism we have not yet succeeded in finding an antecedent anginal affection may be



ascribed to the similar condition of a lymphadenitis in which we fail to find the initial surface wound through which the germs found entrance. The little wound or abrasion may be long healed over and forgotten before the more serious metastasis is discovered. The reason for the attack by the germs on the articulation rather than on other anatomical parts is perhaps found in the fact that they are the parts of least resistance, as they are also in the other acute infectious diseases such as diphtheria, tuberculosis, and gonorrhœa. The skin affections coincident with rheumatic attacks, erythema nodosum, erythema exudatum multiforme, peliosis rheumatica, may likewise be said to be dependent upon micro-organisms for their production. Brück says that their occurrence succeeding angina is not nearly so infrequent as has been stated by others. Who would think of examining the skin of the entire body in every case of sore throat in daily private practice? On the other hand, who would question a patient suffering from such skin affection as to whether he had had a previous sore throat? Even if the query were put, the angina may have been so mild that it escaped the patient's memory. Brück chooses four cases from his practice which illustrate his theory. In every case there was either a well-marked petechial affection of the skin or some rheumatic trouble, or both, succeeding a tonsillitis lacunaris. The condition succumbed to the salicylates. In one patient the entire body, excepting face, neck, and chest, was covered with petechiæ. In others, only the legs were covered with a mild petechial eruption. In all of the patients the beginning of the rheumatic symptoms followed so closely after the cessation of the throat symptoms that the causal relationship seemed to admit of no question whatever. These latter were so unimportant in three cases as to awaken no anxiety whatever in the mind of the patient. The rheumatic conditions were muscular as well as articular in character, from which we glean the identical origin of the two. Cases which have been cited by Babes and Reher agree fully with the idea advanced by Brück. The etiological dependence of angina lacunaris, acute muscular and articular rheumatism and the purpuric skin eruptions is thus satisfactorily dismissed by him as being absolutely proved. It might not be amiss to declare that in this category would belong otitis media. Black has shown this connection in publishing his cases. Gradenigo has done likewise. It would certainly be of value if more time was given to searching for such causes as above enumerated in all cases of rheumatic affections and their accompanying skin eruptions.—*Medical News*, December 8, 1900.

## 120.--THE LIGHT TREATMENT OF LUPUS.

By EDWARD STAPLETON, M.D. Dublin.

[From Dr. Stapleton's criticism of this method of treatment :]

A number of experimenters have worked at this subject since 1877, and though many of their results appear conflicting, the following conclusions may be adopted : (1) That sunlight and electric light, in a lesser degree, have a deleterious effect on bacteria ; (2) that this effect is not dependent on temperature ; (3) that the ultra-violet rays are the most bactericidal.

Through the courtesy of Dr. Sequira, who is in charge of the Light Department of the London Hospital, I was afforded every facility for studying the details and observing the effects of the Finsen method. I paid several visits to the hospital, and was greatly struck, not only by the thoroughness with which the treatment is carried out, but also by the arrangements which had been made for the comfort and convenience of the patients. I saw a number of cases of lupus under immediate treatment, as well as patients who had come to report themselves after the treatment had been discontinued. I also paid a visit to the studio at Notting Hill Gate, where Mr. Malcolm Morris is giving the Finsen method an exhaustive trial.

The light employed at the London Hospital is derived from two arc lamps of 18,000 candle power. Radiating downwards from each of these lamps are four tubes, which by an arrangement of lenses concentrate the rays of light on the patients, who are lying on tables underneath. The lenses are of quartz, this material allowing the rays of shortest wave length to pass through ; and between the lenses a stream of water constantly flows, which acts not only as an absorbent of the red rays, but also as a cooling medium through which the light must pass. By means of a screw adjustment the rays can be accurately focussed on the affected part. As the light is still, however, too hot to be applied without hurting the patient, the skin is kept cool by a little apparatus applied over the part to be treated, consisting of a plate of quartz and a convex lens of the same substance, framed together in a brass ring. Through this chamber a second stream of water is kept running, and by this means the skin can stand the action of the strongest light. Meanwhile pressure is kept up to render the skin anæmic, thus enabling the violet and ultra-violet rays to penetrate more easily. In this manner an area about the size of a sixpence is treated for an hour every day.



To obtain the full benefit of the light the affected area must be a plane surface, on which the rays can be accurately focussed. Mucous membranes have not been found suitable for treatment, partly because the pressure cannot be borne, and partly because, owing to the irregularity of surface, accurate focalisation is impossible. Neither can the septum nasi, owing to its inaccessibility, be acted on by the rays. Now, as the mucous membranes of the nose and lips, and the septum nasi are parts frequently attacked by the disease, this at once establishes a very serious limitation. To get over the difficulty other methods are employed to supplement the light, and, in addition to the usual chemical, mechanical, and thermal agents generally adopted, the x-rays are commonly used. This is a point of interest. For though Hewlett states emphatically that the action of the x-rays on bacteria is nil, I saw several cases which had apparently been successfully treated by this method. Thyroid feeding has been adopted as a supplemental measure in a number of cases with apparently good results, but as the patient is taking the drug while under the Finsen treatment, it is, of course, impossible to say how much of the cure is to be attributed to either. Finsen regards the supplementing of the light by other remedies merely as a saving of time; but it is only fair to assume that when patients are under close observation and daily treatment for many months measures such as these might of themselves produce a beneficial effect.

Let us now see how this light treatment compares with the methods with which we are already acquainted. The chief advantages claimed for it are its reliability, its excellent cosmetic results, the infrequency of relapses, and the fact that the method is painless. In a number of the cases that I saw there was an undoubted improvement in the patients' condition, photographs of the state of the parts at the commencement of treatment being always available to prove this. It is admitted that the early and superficial cases are those which afford the best prospect of cure; but these are just the class of cases that would naturally be the most amenable to other forms of treatment. On the other hand, there were patients who had been attended daily at the hospital for a period as long as six months, and comparing their condition with what it had been when they entered the hospital there seemed but small justification for persevering longer. These, I will admit, were cases where, as a rule, other forms of treatment had also failed. I particularly questioned the patients on this point, and I further ascertained that in the majority of cases where the affection was less severe and where the light was apparently doing good the patients had never undergone any systematic treatment before they had subjected themselves to the Finsen

method. As to the cosmetic effects, there were only two cases that struck me as giving a better result than what I had seen attained by other methods. One was that of a boy, who had a patch some three inches in diameter extending over the side of his face and neck, and the result in this instance was certainly all that could be desired. The second was a patient of Mr. Malcolm Morris, who had suffered from lupus erythematosus; and in this case the scar was hardly distinguishable from the surrounding skin. In all the other cases there was a certain amount of scarring present—in some more, in some less; and many of the affected patches, though apparently healed in one situation, showed signs of breaking down in another. As regards the question of relapse, the light treatment at the London Hospital has only been in operation since the commencement of the past year, and it is too early to gather much information on this point. The operation is said to be painless. It is certainly so, at the time, but, as already stated, about twelve hours afterwards the area treated begins to smart, and not infrequently the inflammation excited is so great that further applications have to be suspended until the parts quiet down again.

Another great objection is the length of time necessary to produce the beneficial results. This averages from three to four months, involving a daily attendance of one hour; but in some cases the treatment has to be continued over a period of six, eight, or even twelve months. Again, the expense. The apparatus is very costly, and the staff numerous, and requiring special training. Each patient demands the exclusive services of a nurse during the hour of attendance; and there is, in addition, a sister to supervise the work of the nurses, a medical officer to examine the cases and employ such other treatment as may be necessary, and, lastly, a practical electrician to regulate the lamps.

The preliminary difficulties of the expense, installation and manipulation of the apparatus, though very great, should not be considered in judging the practical value of the treatment, and the length of the time employed should be no bar if one could feel certain that by adopting this remedy more was being done for the patient than could be effected in the same time by other means. A serious difficulty in cases of lupus is that of securing the daily attendance of the patient for long periods, and the failure of many ordinary measures to cure should be put down rather to the lack of continuous treatment than to the ineffectiveness of the particular method.—*Dublin Journal of Medical Science*, March 1, 1901.



121.—A REVIEW OF THE THERAPEUTIC USE OF  
THE X-RAYS.

By HARVEY P. TOWLE, M.D.

Boston ; Assistant to the Physicians for Diseases of the Skin,  
Boston City Hospital, &c.

[From Dr. Towle's paper :]

Schiff and Freund reported two cases in May, 1898. In the first case treatment was given from January 8 to February 18. Nineteen sittings of twenty to twenty-five minutes each. March 6 it was noted that there was complete healing over. Smooth white scar. Isolated nodules in surroundings. The second case was treated from December 30, 1897, to April 4, 1898. Forty sittings of ten minutes each. Slight dermatitis interrupted sittings for a time. Result, cure. Schiff reports the case of a girl with two lupus ulcers. One ulcer healed in two months, the other in five months. Also, the case of a boy who was exposed one-half hour to one hour daily for ten days only. Nevertheless the therapeutic action continued, and the lupus was healed in four months without further treatment. Kümmell has treated 16 lupus patients, in whom there was at least improvement in all but one. Cures in from four weeks to several months. He then states that the time elapsed is too short to claim too much as to results. Albers-Schönberg reports 12 cases. He has had some returns, "but what procedure has not." Of these 12 cases he considers seven absolutely cured. Several have remained free for over one year, and one for one and a half years. The opponents of this method of treatment, he says, will not consider a period of from nine months to one and a half years long enough. He looked with suspicion on the other five cases—some had returned, and all were unsatisfactory. Hall-Edwards reports three cases, in only one of which was the result considered satisfactory, "due perhaps to defective procedure." Jutassy reports two cases cured. In commenting upon the published cases he says, "that a large part of the lupus cases reported are still too recent to be judged. In about one-half of the older cases there has been a return." Many other cases have been reported as cured by the x-rays, but all are recent. The oldest cases which I have seen reported are those of Schiff, Gocht, Kümmell, and Albers-Schönberg. These men have reported cases in which there has been no return in over one year, and a few cases in which there has been no return in two years. These cases are surely encouraging, but remembering the peculiar delayed healing as shown in the cases of dermatitis, and how slowly the changes set up are

overcome, perhaps, as Jutassy has said, the time is still too short to allow of an absolute judgment.

The reaction of the lupus tissue to the x-rays is considered by Freund and Schiff to be characteristic. They describe this reaction as follows :—The visible lupus nodules grow gradually dark red and turgid. Then there appear, on places apparently normal, dark spots, which gradually assume the characteristics of lupus nodules. Later the nodules fall out, leaving a hole the size of a pin's head, which looks as if it were made by a curette. In the place of the nodules are left fine subcutaneous scars. The intervening skin is white and smooth. Himmel concludes that the x-rays exert a greater and deeper action upon the lupus tissue than upon the healthy skin. Lupus vulgaris and cases of hypertrichosis are the diseases in which the x-rays have been used therapeutically most often, but there are also several other diseases in which they have been used more or less. A few cases of lupus erythematosus have been reported. Jutassy claims better results in the treatment of this disease from the x-rays than from any other treatment. Gocht reports a case where hairs growing in a wound prevented healing. The hairs were removed by the x-rays, and the wound then healed. This use of the x-rays is similar to a suggested use in removing the hair in certain parasitic diseases, such as tinea, favus, &c., where a permanent removal is not desired, but merely a temporary removal, to enable treatment to be carried out more easily and effectively.

Before the French Academy of Sciences, on behalf of Dr. Sorel and Professor Soret, of Havre, M. Mascat showed a series of photographs of the hand of a patient who had been suffering from elephantiasis. The patient had recovered, and solely by the use of the x-rays, after three sittings of a few minutes each. A few cases of eczema have been treated by the x-rays. According to Albers-Schönberg, the x-rays remove absolutely and surely the eczema accompanying lupus. Dr. Pusey states that "the cases of eczema in which this method has a field of usefulness, are the very intractable cases of chronic eczema, in which there is a necessity for a marked stimulation of the skin, in order to get absorption of the inflammatory products." He concludes that the field of usefulness in eczema will be limited. A few cases have been reported recently of the use of the x-rays in cutaneous cancer. Against these cases can be urged the same objection as against many of the lupus cases, time enough has not elapsed to judge of the final results, but even so, they are encouraging enough to warrant further trial.

Enough has been said to show the nature of the changes in the skin set up by the use of the x-rays, and of the diseases in which advantage has been taken of these changes to apply



them to therapeutic use. It remains but to speak briefly of the method of using the rays. The necessity of care to prevent injury has been spoken of already. To avoid such injuries Freund and Schiff have published a method of procedure which, if followed, they think will render the use of the rays perfectly safe. They state that for epilation without inflammation the maximum limit of strength of current should be 2 amperes ; tension,  $1\frac{1}{2}$  volts ; tube distance, 20 to 25 centimetres. The length of the exposure should not be over ten minutes. To excite inflammation as in the treatment of lupus, increase the strength to  $3\frac{1}{2}$  amperes and the tension to  $12\frac{3}{4}$  volts. Shorten the tube distance to 10 centimetres or less. Length of exposure should be the same. Protect the parts not to be treated with sheets of lead. To test the patient's resistance to the rays, give one or two test sittings with the tube distant 20 centimetres. If there is no reaction in three weeks, it shows that the patient can stand the treatment. All observers unite in saying that care is necessary, and that treatment must be suspended upon the first appearance of dermatitis. By observing these rules it is claimed that the treatment is rendered entirely safe ; indeed, a number of men who have exposed hundreds of cases to the x-rays say that they have never had a case of dermatitis follow. —*Boston Medical and Surgical Journal*, April 11, 1901.

## 122.—DERMATITIS FROM ARSENIC IN STOCKINGS.

By F. W. TUNNICLIFFE, M.D., M.R.C.P. Lond.,  
Professor of Materia Medica and Pharmacology in King's  
College, London ; and

OTTO ROSENHEIM, Ph.D., F.C.S.

[The authors relate two cases. The following is taken from their remarks :]

That dyed materials when brought into contact with the skin may give rise to local irritation, occasionally culminating in actual dermatitis, has long been known to dermatologists. In the early period of aniline dye manufacture the effect of dyed stockings in this direction was easily traceable to the large percentage of arsenic acid used in the preparation of these dyes (fuchsine red, &c.). That the external application of arsenic is productive of severe and even fatal poisoning is well established, as may be seen upon reference to the text-books of toxicology.

These considerations, confirmed by many other observations, resulted in Germany in the passing of a law prohibiting the use of any dye stuff containing arsenic for the purpose of colouring food, wearing apparel, or domestic objects. Since the passing of this law practically all the aniline colours placed on the market have been free from arsenic. The clinical history of these cases suggests strongly the presence of some chemical irritant in the stockings. In Case 1 we were able to obtain for chemical examination (1) a pair of new stockings identical with those the wearing of which was followed by the dermatitis; and (2) the stockings actually worn by the boy after they had been twice washed. In Case 2 we obtained an unworn pair of stockings from the same lot as those which had caused the trouble. It was found that one pair of stockings contained as much as 75 milligrammes, or 1.2 grains of arsenic ( $\text{As}_4\text{O}_6$ ). It was further found that the stockings which had been washed twice still contained some soluble arsenic, the watery extract giving a distinct arsenical mirror. After the stockings had been completely extracted with distilled water they still contained 64 milligrammes of  $\text{As}_4\text{O}_6$ . The stockings of the patient in Case 2 were only examined qualitatively. The mirrors obtained from both the stockings themselves and the aqueous extract of them were approximately of the same intensity as those derived under similar conditions from the new stockings of the patient in Case 1.

From the above results we think that the previously obscure etiology of these two skin affections is cleared up, and that we may regard them as being caused by the arsenic contained in the stockings, and probably by the soluble moiety. The ordinary stockings worn by the boy in Case 1 in the time between the two attacks were found to be free from arsenic. It must, of course, be remembered in this connection that the term "soluble" and "insoluble" with regard to the arsenic content of the stockings is only relative, in that the stockings while being worn would be subjected to the action of an acid secretion—namely, the sweat—by the agency of which some of the insoluble arsenical compounds might be rendered soluble. The fact that the amount of sweat secreted, especially by the feet, is very considerable, is shown by the researches of Cramer, who found that socks in a given time absorbed their own weight of sweat. In this case the conclusion that some arsenic was absorbed through the skin seems justified, in that we must regard the vomiting as produced by the excretion by the stomach of arsenic absorbed by the skin. This same phenomenon has been recorded by other observers.

We have heard incidentally of other cases of dermatitis which, in the light of our present knowledge, we should regard as having a similar etiology to the above. Unfortunately these



have not been observed with sufficient exactitude, nor was the material in question available for chemical examination. The indications, however, were sufficient to induce us to examine this matter further, with the view of ascertaining to what extent ordinary dyed goods contained arsenic. We first examined three samples of black woollen stockings purchased at various prices in different parts of London, all emanating from the same wholesale firm and from the one which supplied the original stockings worn by the patient in Case 1. They all contained arsenic, but apparently in smaller amount than the stockings productive of the dermatitis. We next obtained one sample from each of four other makers, and we found that arsenic was present in each case to a larger or a smaller degree. Three samples of "tan" mixed wool and silk socks were contaminated as well. We examined also a pair of ordinary woollen gloves, and found them to be arsenicated. This had especial interest in view of the case quoted by Sell, in which a severe dermatitis of the hands was produced by the wearing of a pair of marine-blue gloves. A sample of black loose wool was found to be free from arsenic.

Although no doubt individuals differ largely *inter se* with regard to their sensitiveness to arsenic, it would seem that if arsenical mordants cannot be dispensed with, their use should at least be supervised. The presence of soluble arsenical compounds in those materials which come into intimate contact with the skin can certainly be avoided, and should be prohibited.—*Lancet*, April 27, 1901.

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# Obstetrics and Gynæcology.

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## 123.—SUBARACHNOID COCAINISATION IN OBSTETRICS AND GYNÆCOLOGY.

By N. J. HAWLEY, M.D., and F. J. TAUSSIG, M.D.,  
Superintendent and Assistant Superintendent respectively,  
Female Hospital, St. Louis, Mo.

[From Drs. Hawley and Taussig's paper. Fourteen of the 21 cases were obstetrical and seven gynæcological. One-sixth to one-third gr. of cocaine was injected.]

Only two of our patients developed symptoms that were in any sense serious. In neither case did the patient's life seem to be endangered. Usually the patient's condition was unchanged, and in four cases there was even some improvement in the pulse. The most constant toxic symptom was the vomiting. It appeared in 70 per cent. of our cases, coming on within ten minutes of the injection. It was accompanied by considerable nausea, but lasted only a few minutes. It is worthy of note that, whereas twelve out of fourteen obstetrical cases were characterised by vomiting, it appeared in only three out of seven gynæcological cases. This might be explained by the fact that vomiting is a frequent concomitant of a normal labour. Headache we did not find so frequent a symptom as previous reports had led us to believe. In but three cases did it appear, and was then neither severe nor lasting. Twelve hours after injection a rise of temperature to 101-102 degs. was observed in most of the cases, but this was also found to be more frequent in the obstetrical ones. It was noted in only one of the seven operative cases. Of the minor symptoms the most prominent were restlessness, trembling, and perspiration. In all the cases, after 24 hours had elapsed, the patient was free from any manifestations of the cocaine. No sequelæ have been noted thus far.

The injection was usually not given until the cervix was completely dilated, and in primiparæ was often delayed until



the head was on the perineum. Hence, the first stage of labour was not affected. After the injection, in 70 per cent. of the cases, the pains were, as a rule, neither as prolonged nor as powerful as before. Twice the pains continued as strong as before, and the other two times the cocaine seemed to stimulate the uterus to expel its contents. In frequency the contractions were not much affected, being more often increased in number than otherwise. In like manner the abdominal muscles were not brought into play so well as before the injection. Many of the primiparæ not knowing how to bear down, and not stimulated thereto by the pain itself, let the contractions pass unaided in spite of the appeals of the accoucheur. It is not surprising, therefore, that the average duration of the second stage of labour in primiparæ was three hours twelve minutes. In several cases the head remained on perineum for four hours. The forceps was applied only when the condition of the mother or the child absolutely demanded it. Yet this was necessary in five out of eleven primiparæ. In two of these, however, the blame may not be attributed to the spinal anæsthesia; in one case asphyxia of the child necessitated the application, and in the other one the presentation was a persistent occipito-posterior. In the other three the forceps was applied because of delayed labour, and it is hard to find any special reason for this delay except the cocaine injection. In five cases the cocaine seemed to have a toxic effect upon the child. A pulse that had been 140 would drop to 90-100 shortly after the injection, and after remaining so about ten minutes would again return to its normal rate. Three times the child was somewhat asphyxiated when born. One child died, but in this case there were symptoms of weakness before the injection was made. There was no case of post-partum hemorrhage in our series. In fact, the bleeding was unusually small in amount. The average duration of the third stage of labour was only about ten minutes. Of the eight perineal lacerations only two were of any extent. Even so, this is a rather large percentage. The perineal body did not seem to relax so well as under chloroform.

To summarise, then, our results, as far as they go, would tend to support the view that spinal anæsthesia is not very dangerous, except perhaps to the child in utero. When it produces disagreeable symptoms, they are usually transient. In the labour cases it usually retarded progress. Finally, the anæsthesia it produces is for a fairly definite period of time without affecting consciousness, and with full control of the voluntary muscles.

It only remains to consider in brief the indications. From a study of these cases the use of the lumbar puncture in multiparæ would seem to be less called for than inhalations of chloroform. The results obtained from its use in primiparæ were also not

very encouraging, but when good results can be obtained in a few cases the experiments should be continued. In instrumental deliveries, when urgency is required and the patient is not of a very nervous temperament, the spinal narcosis seems to meet every indication. The delivery would be much facilitated by the patient's aid, which is not obtained under general narcosis, and the dangers of retained placenta and post-partum hemorrhage are lessened. It is doubtful if the puncture will ever replace general narcosis in abdominal operations. In vaginal cœliotomy and minor gynæcological work it seems to have its greatest field of usefulness, and will, we believe, come more in vogue as its merits are more fully observed and understood.—*Medical Record*, January 19, 1901.

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#### 124.—AUSCULTATION IN THE MANAGEMENT OF LABOUR.

By ALEX. MACLENNAN, M.B., C.M., L.M. Rotunda,  
Extra Dispensary Surgeon, Western Infirmary, Glasgow.

[From Dr. Maclennan's paper:]

Auscultation of the foetal heart is of much importance in helping to arrive at a decision regarding interference on behalf of the child. Extreme rapidity of the foetal heart's action is quite compatible with a normal and healthy child, and does not necessarily imply danger. Quite another matter is preternatural slowness. When the rate is below 100-120, there is evidently some interference with the circulation. As has been already remarked, slowness combined with diminution in volume or with irregularity is of serious import for the infant. Frankenhäuser mentions that it is a grave sign for the child when, after reposition of a prolapsed cord, the heart sounds remain at 80. Irregularity, combined with slowness, is a more urgent sign for hastening delivery than bradycardia alone. The absence of the foetal heart sounds contraindicates Cæsarean section. Pressure on the cord occasionally alters the characters of the sounds, and substitutes for the first sound a murmur, V.S. in rhythm.

*In the diagnosis of pregnancy.*—The observation of foetal heart sounds is of the "certain" signs of pregnancy the most certain. In every case after the seventh month these sounds should be heard if the child is alive. A deep layer of liquor amnii between the stethoscope and the child will mask the sounds, but sinking the stethoscope till the resistance of the



solid foetus is felt will overcome this. The masking of the sounds in normal cases is usually due to adventitious noises, so the phonendoscope gives little aid in the diagnosis.

*In the diagnosis of twins, etc.*—Kergaradec was the first to apply auscultation to the ante-partum diagnosis of twins. Nagle claimed to have been the first in this country to have done so. It is on record that Naegele (son) diagnosed triplets by this means. The diagnosis of plural conception by palpation is usually easy, but by auscultation alone it is more difficult. The presence of two distinct areas of maximum intensity is a very uncertain sign. The hearing of both foetal hearts acting together, but with different rhythms, is, however, circumstantial evidence.

*In the diagnosis of presentation, etc.*—Finding the area of maximum intensity above the umbilicus is strongly suggestive of breech presentation. The use of the umbilicus as a landmark is of very questionable validity, and will therefore diminish the value of this sign as an aid to the diagnosis of presentation, or position. Taken in conjunction with palpation the foetal heart sounds are of great utility, especially where the back is anterior. Auscultation, too, is best performed after careful palpation. When we know the attitude of the child, we are able to place the stethoscope on the spot where the foetal heart should best be heard. In facial presentations, where the thorax of the child is pressed against the uterine wall, the situation of maximum intensity is said to be directly over the foetal heart—*i.e.*, the foetal heart is best auscultated on the same side as the limbs; indeed, in facial presentations Attensamer, Duval, Fischel, Fleischmann, and Valenta have asserted that the cardiac pulsation of the foetus were directly palpable. Where the area of maximum loudness is below the umbilicus, the probability is that the presentation is a cranial one, though in transverse cases the heart sounds will be in much the same situation as in cranial. During the progress of labour the auscultation area descends with the child, and the sounds, often inaudible in their former site, are readily heard immediately over the pubis. It is asserted that the right or left position can be diagnosed according as the sounds are best heard right or left of the middle line. This is even more fallacious than the diagnosis of position from palpation of the child's back. Lateral flexion of the uterus may carry the child bodily towards one or other side, irrespective of the position of its back. In dorso-posterior positions the area of maximum intensity becomes very wide; conduction of the sounds taking place through the limbs. The situation of the sounds is in these cases quite useless for the diagnosis of position.—*Glasgow Medical Journal*, November, 1900.

## 125.—PLACENTA PRÆVIA.

By R. P. RANKEN LYLE, M.D., B.A.O.,

Obstetric Physician to the Newcastle Lying-in Hospital, &c.

[From Dr. Lyle's paper :]

A careful study of the circumstances influencing the prognosis on behalf of the mother would serve as a valuable indication as to the line of treatment to be adopted in each individual case, and in addition a close consideration of the different conditions which may exist. The conditions which guide us as to treatment are : (1) Complete or incomplete placenta prævia ; (2) the nature of the presentation ; (3) whether labour be absent or present ; (4) the character of the pains and the size of the os uteri ; and (5) whether the membranes are ruptured or not.

For the purposes of treatment, most cases of placenta prævia may be divided into three classes as follows : First, cases of incomplete placenta prævia, in which the first stage of labour is fairly well advanced ; rupture of the membranes and the application of a tight abdominal binder will usually be found sufficient treatment, but in a rare case this treatment may not check the hemorrhage, when version (if necessary) should be performed, and a foot brought down, leaving the subsequent delivery to nature, with the exception, of course, of slight traction on the foot should hemorrhage continue.

Secondly, cases of complete or incomplete placenta prævia, in which the os uteri is sufficiently dilated to admit two fingers. It is in the treatment of these cases that so much difference of opinion exists, some recommending the rapid evacuation of the uterus of its contents, irrespective of the injury which may be done to the mother's soft parts, and indeed of the risk to the patient's life ; while others recommend the separation of the placenta from the uterine wall with the finger, a proceeding which many consider not only fatal to the child, but extremely dangerous to the mother, on account of the risk of septic infection. The treatment which has been adopted at the Rotunda Hospital for many years with marked success is as follows : In cases of central or complete placenta prævia the placenta is perforated with the fingers, version (if necessary) is performed, and a foot brought down, a tight abdominal binder applied, and the subsequent delivery left to nature, unless, of course, the continuance of hemorrhage should necessitate slight traction on the foot. In cases of incomplete placenta prævia under this heading, the treatment, with the exception of rupture of the membranes, instead of perforation of the placenta, is identical.



Now, when one considers that owing to the attachment of the placenta the cervix and lower uterine segment is extremely soft and vascular, and, as Dr. Smyly says, "tears like wet blotting-paper," I think you will admit that any form of mechanical dilatation is scarcely justifiable, as it practically means mechanical tearing of the cervix, and when followed by *accouchement forcé*, the tear may extend right up into the uterus, or perhaps through the peritoneum, causing sudden death of the mother, or rapid death from *post-partum* hemorrhage. The advantages of version and bringing down a foot are as follows: (1) It does away with the tampon and consequent danger of infection; (2) it allows early operation; (3) it arrests the hemorrhage with great certainty; (4) gives time for the patient to rally; (5) gives time for labour pains to set in and consequent natural dilatation of the cervix; and (6) less danger of *post-partum* hemorrhage.

Thirdly, cases of placenta prævia in which the os uteri is not sufficiently dilated to admit two fingers. These cases are extremely rare, and should be converted into cases of the first or second class by plugging the vagina tightly with boiled cotton wool and the application of a tight abdominal binder until labour has advanced sufficiently to dilate the cervix, and then treat accordingly.

As soon as the diagnosis of placenta prævia is certain, no time should be lost in the treatment of the patient, because at any moment a sudden and severe hemorrhage may supervene, which would materially lessen the chances of successful treatment, and perhaps jeopardise the lives of both mother and child. Procrastination in the treatment of these cases is not only a source of the greatest anxiety, but often materially detracts from successful treatment, and may cause great remorse in the mind of the practitioner for not having acted sooner.

During the ten years 1889-99, 74 cases of placenta prævia were treated in the Rotunda Hospital. There were four maternal deaths. The ages varied from 20 to 40, 66 per cent. being 30 years of age or over, and 33 per cent. being under 30 years of age. Three cases only were in 1-paræ, the others occurring more or less uniformly from the second to the ninth pregnancy, and a few occurring in the tenth, eleventh, twelfth, and thirteenth pregnancies. Of these cases, 28 are recorded as occurring at full term, five at eight and a half months, 17 at eight months, five at seven and a half months, nine at seven months, five at six months, and one at the fifth month of pregnancy; nine cases are recorded as cases of complete placenta prævia, the remainder being incomplete.

The treatment which was adopted in all these cases, with one exception, was that indicated above, and the results have been

highly satisfactory. In the exceptional case the forceps were applied before the os uteri was fully dilated, and the patient died from *post-partum* hemorrhage, the result of rupture of the uterus. Omitting this case, we have only three other cases which proved fatal—one from pulmonary embolus on the eighteenth day; the other two died from sepsis, both having been admitted septic to the hospital. Both these cases had been treated for several days before admission by unskilled midwives, who had made frequent vaginal examinations without diagnosing the condition. It is interesting to note that no case required plugging of the vagina, the cervix being in every instance sufficiently dilated to admit two fingers.

Twenty-eight infants lived and 36 died.—*British Medical Journal*, April 6, 1901.

## 126.—VERSION: TECHNIQUE, LIMITATION.

By S. MARX, M.D.,

New York.

[From Dr. Marx's paper:]

In speaking of the technique of version I shall limit my remarks to the pure internal podalic method. Before going into the details of this operation I beg leave to call your attention to the following rules which have been of inestimable value to me in the past: (1) Always be sure of the position and the presentation. (2) Certify to the fact that the foetus is alive or at best is not in immediate grave danger. If this cannot be done by the ordinary methods introduce the hand in utero and palpate the cord. Unless the child be in such condition that an easy and rapid delivery will produce a living child, it would be far better to do an elective perforation than to subject the mother to any other operation which carries with it an increased danger, for the sole purpose of delivering her of a child that will probably be still-born, or if born asphyxiated will give to this already overcrowded class of idiots another victim in the ranks. (3) Do your version as early as you can in the presence of an intact fruit sac; or, at least, as soon after the membranes have ruptured as possible. (4) Always introduce the hand corresponding to the position of the foetal feet. (5) Always turn the child in such a fashion that will keep nature's classic ovoid intact; that is, carry the foot along the abdominal plane of the foetus and not away from it. In the presence of unruptured waters it is advisable to preserve the integrity of the



membranes until the foot is grasped. The woman being placed on the back, that hand is introduced which corresponds to the position of the feet ; the left hand when the feet are in the right segment of the uterus, consequently to the left of the operator as he faces the patient ; or the right hand when the opposite condition obtains. Slowly insinuating the hand between the membranes and the uterine wall, it is carried up to the fundus until a foot is felt. It is perfectly immaterial which foot you grasp or whether one or both, so long as you have a foot. If a hand or arm is delivered by mistake, it should not be replaced, but should be left delivered by attaching it to a sling, since I have always felt that an arm delivered is worth two undelivered. Rapidly bringing the foot down in a direction which does not disturb the well-flexed position of the child it is generally advised to finish the case by an immediate extraction. When a manual dilatation has preceded the version it is a well-known clinical fact that a rapid retraction of the lower uterine zone is likely to recur, and for this reason, in order to prevent the head from being caught in the grasp of the spasmodically contracted cervix and causing the loss of the foetus at the critical moment, it is always advisable to do a very rapid delivery. When we are dealing with a small pelvis the after-coming head must always be guided through the largest diameter of the inlet, which is usually the transverse. As the head comes through the contracted pelvic inlet the woman must be thrown momentarily into the Walcher position in order to increase the conjugate of the inlet, which it certainly does by one-half to three-quarters of an inch, but at the expense of the corresponding diameter at the outlet. Consequently, as soon as the head has passed the contracted inlet the patient must be placed in the exaggerated lithotomy position. I feel that the great error committed by all of us is to rely too much, in delivering the breech, upon the traction efforts instituted by pulling on the legs, and far too little on the *vis a tergo*. From my own standpoint I always refrain from active traction efforts from below, but use the legs more as a guide for the after-coming head. Well-marked and well-directed pressure from above will do more to keep the head firmly flexed and carry it through the brim than any manoeuvre that I know of. The after-coming head can be delivered by any of the usual methods, but as an accessory measure I have found very useful the introduction of the fingers, not at the point of the jaw but well back to and beyond the root of the tongue, in order more forcibly to flex the head. The malar bones for this same purpose give too little and too uncertain a purchase.

Now as to the limitations of the operation. If we knew what constitutes a contracted pelvis or if by any known scientific

means we could gauge the size of the child's head, we would be dealing with a very simple problem. For general purposes, in order to obtain a reasonable working basis, we must estimate from the standpoint of the average pelvis and the average-sized child. In all such conditions in which the head remains above the brim a version ought always to be performed, providing the head cannot be pushed into the pelvis by suprapubic pressure. Further, no operative measure short of a perforation should be instituted in the presence of a dead or dying fœtus. Our lowest limit for a deliberate elective version would be in the case of a pelvis whose true conjugate is at or above three and three-fourths inches in the presence of an average-sized or small child. Further, if it be remembered that by placing the woman in the exaggerated extension or Walcher position we obtain an increase of the true conjugate of the inlet of between one-half to three-quarters of an inch, then our extreme lowest limit would be almost three inches. It is of the utmost importance to remember that the time for the Walcher is then, and then only, when the head is passing the contracted inlet. These measurements are purely arbitrary, and certainly would not hold good in the presence of a large or over-sized child. Here then is the time when the matter of personal equation comes in. It has never appeared to me that the subject could be a matter of centimetres or of inches, but a relation, pure and simple, between the ability of the head to pass through the pelvis by head-first or head-last mechanism, or again such disproportion between the two that nothing short of a Cæsarean or symphyseotomy operation would suffice to terminate the labour. Finally the finer details will ever remain a problem which only the individual skill and experience of the expert accoucheur may possibly solve. But this much I may be allowed to opine—and a personal statement it is—and that is, that the operation of version stands squarely midway as an alternate operation between (of course excluding perforation) forceps and Cæsarean section. From what I know my experience has taught me, I feel that the field for symphyseotomy is becoming smaller and smaller, and with increasing expertness in the field of a rational pelvimetry and with the possible hope that our methods for gauging the size of the head of the unborn child will become a finer and more exact art, it is to be hoped that the operation of symphyseotomy will soon be remembered as one that was performed during a wave of an enthusiastic period.—*Medical Record*, May 4, 1901.



127.—THE TREATMENT OF THE THIRD STAGE  
OF LABOUR.

By DAVID WIELD, M.A., M.D.,  
Brisbane.

[From Dr. Wield's paper :]

Personally, I am accustomed to employ what I may describe as a modification of the Dublin method, which I think has over its model some slight advantages. It is applied as follows : As the child emerges from the passages, the left hand placed on the fundus follows down the uterus. The ulnar side of the hand looks towards the vertebral column, the palm is on the fundus, and the thumb and fingers, slightly outspread, control the uterus, and are ready to prevent, by moderate pressure, any undue relaxation. As soon as the child is born, the parturient is turned over on to her back just as in the Dublin method. No kneading or friction is employed, and the hand still maintains its position while the tying of the cord, when its vessels are flaccid, is left to the care of the nurse. The cord is by her severed outside the ligature, and the remainder of the placental blood, except in the case of a plural birth, is allowed to escape. The cord is then rendered taut, and a second ligature is applied just where it emerges from the vulva. Ere long the rhythmical contractions of the uterus begin, stimulated probably by the presence of the hand on the fundus. Each contraction is accompanied by slightly diminished, and each relaxation by somewhat increased, pressure—so graduated as to prevent the volume of the uterus increasing beyond what it was before the preceding contraction began. The pressure is made in the direction of the pelvic axis, and is applied by the fingers rather than by the palm. This constantly varying, but never strong, pressure prevents any considerable amount of hemorrhage taking place between the uterus and any early detached portions of the placenta, and would certainly tend to compel any that did occur to find room for itself by further detachment of that structure. After each contraction the hand seems naturally to secure a better hold of the fundus, until, when the placenta glides downward from its site, the fundus is held, as it were, in the hollow of the hand, and is in perfect control. Firm pressure is then made downwards and towards the vulva, and the right hand is in readiness to receive the placenta as it emerges. This reception of the placenta is necessary to prevent the strain of its weight tearing across the membranes, which are then, in the usual fashion, twisted into a cord, and issue apparently of themselves.

Soon the contractions lose their intermittent character, and become more or less permanent, and when the so-called cricket-ball contraction is felt to have begun the left hand is at last allowed to relax all pressure, though it still remains on guard, while the placenta and membranes are floated out and examined. If all is right, the blood is then washed from the genitals and thighs, a diaper wrung out of cold corrosive is applied, and only when the binder is ready for fixation is the hand lifted from the fundus. The emptying of the vessels of the cord I take to be an additional guard against hemorrhage, as by lessening the size of the placenta it allows an additional amount of contraction and retraction to take place before separation actually begins. I believe, too, that the tearing-off of lobules is less likely to occur in the case of a relapsed and bloodless placenta.

Since I began to employ this method I have seldom had to wait even the traditional twenty minutes for the expulsion of the placenta, and still more rarely have I found the method fail. With it the retained placenta has practically become a thing of the past, and the adherent placenta is recognised to be as rare as the modern text-books assert. It seems to me to reduce to some extent the amount of what has been called "the usual, physiological, and inevitable gush" that comes with the placenta, and it certainly prevents hemorrhage before, and permits only the slightest oozing after separation is complete. Needless to say, there are cases in which it fails to produce its best effects; take, for instance, the large, flabby, inert uteri of some multiparæ. There one finds the greatest difficulty in obtaining any hold whatever, as the uterus slides like a jelly-fish from one's hand. But even in those cases it has a beneficial effect. In them, and in some others where instrumental or rapid delivery has been performed, I think it is wise to give a dose of the liquid extract of ergot or a hypodermic of ergotin after the birth of the child, but in the indiscriminate and routine exhibition of the drug I do not believe.—*Australasian Medical Gazette*, March 20, 1901.

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## 128.—THE SURGICAL TREATMENT OF PUERPERAL SEPSIS.

*Obstetrics* for December, 1900, states editorially that the marked differences of view held by obstetricians and gynæcologists as to the question of operative treatment of puerperal infection are in no way due to confusion over what may be the proper surgical procedure in a known pathological process, but to a want of diagnosis. There might be no opposition to the



question of hysterectomy for the uterine body and adnexa, which are filled with many pockets of pus that cannot properly drain into the cavity of the organ ; nor for free puncture and drainage of purulent infiltrations of the broad ligaments and neighbouring parts ; nor to flushing and drainage in certain conditions of peritonitis ; but the worry of the profession at large is to know when these conditions exist. In truth it is the worry of the operators, who would be leaders as well. The most remarkable feature of present writings on this question is not what is said, but what is not said, for the arguments brought forward. Operate, yes ; but when ? In certain forms of infection speed is objectionable—*i.e.*, in the filtrating cellular variety ; in another form delay is fatal to success, in the *foudroyante* type, in which the germs fly like winged messengers along the tracts of the lymphatics or veins.

It is a very small percentage of cases of puerperal infection that ever requires operation ; therefore it is a very small percentage of cases on which we operate in which the diagnosis is actually obtained before the exploratory incision is made. We come, then, to the question of whether an exploratory incision in cases suspected of being in need of operative measures will be so free from danger as not to produce a greater mortality than follows in cases treated by non-operative methods. This question is not being treated as fairly and impartially as it should be. There are a number of physicians, more gynæcologists than obstetricians, who have had relatively little experience, and have not therefore a proper sense of the conservative tendency of these cases to recovery, who discuss the needs of operation in isolated sample cases, and to the satisfaction of all in this respect, but who do not weigh the dangers from operation in their true balance against all cases. Nor are they at all clear in determining how to make the diagnosis. To undertake to forestall the general distribution of streptococcic infection is most desirable, but are we to operate every time we think a case is moving to such a form ? We have had many cases that so threatened which did not become systemic, and if we had operated we might easily have increased the mortality instead of preventing it. To the obstetrician who treats his cases carefully, as in a large hospital service, and who has every opportunity to watch them in all their varying moods, two views are forced upon him—that very few cases prove the need of operation, and that the argument of the bedside is strong for conservatism.

The most crying need of the hour is differential diagnosis. Examinations of the vagina, cervix, and secretions of the uterus and vagina for exact bacteriological knowledge of the infection, when made promptly with the beginning of symptoms, will enable us to check many cases by direct local applications. An

exact knowledge of the character of the labour through which the patient has passed will help in learning of actual condition. Thus some cases suggest the presence of thrombi in the sinuses because the patient had an exhaustive labour with hemorrhage from the placental side, and final cessation of the bleeding through general circulatory weakness; or she had prolonged statis of the head at a given point which suggests possible necrosis of a small part of the uterus with underlying germ growth in the line of separation; or she had become very œdematous before delivery, with dryness of the vagina and vulva, a condition bringing the tissues into a most favourable condition for infection and its rapid extension; or she has had secondary post-partum bleedings with probable formation of blood-clots in the cavity which may not be expelled until they have softened by decomposition. All such conditions indicate the lines of surgical treatment, and are very helpful to diagnosis when known. There is a great field here for further investigation as to the individual behaviour of the several germs which produce infection. Our present knowledge is very limited, considering the importance of the field. We need reports of a thousand cases of gonorrhœal infection alone, of the streptococcic infection, and of each of the others, and also these in combinations, with extended study of their characteristics. Such cases in large numbers will, in all probability, bring out little peculiarities of habit and idiosyncrasy of the several tribes of microbes. We will have such information ere long, for many obstetricians are accumulating such data. We have tried to conquer puerperal infection by a master-stroke; we have tried to treat it specifically by a number of remedies, and they have all failed us. We may find a specific, but our present duty and opportunity is to accumulate all possible data of exact reports of many cases of infection.—*From the Therapeutic Gazette, April 15, 1901.*

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## 129.—INFECTION OF THE BREAST DURING LACTATION.

By C. S. BACON, M.D., Chicago,

Professor of Obstetrics, Chicago Policlinic, &c.

[From Dr. Bacon's interesting paper :]

All measures tending to the improvement of the general health, both before and after confinement, are most important in the prevention of the breast, as well as all other, infections. In child-bed or after nursing begins the two principles of prophylaxis are to avoid contamination with bacteria, and to avoid or



heal as quickly as possible the nipple wounds. To meet the first indication, it is necessary to remember the most important sources of infection. The common practice of nurses and patients of taking hold of the nipple with the fingers to draw it out for the child to grasp, is quite unnecessary, and should be forbidden. When the nipple is not erected spontaneously, a little pressure on the breast outside of the areola is generally sufficient. If it should seem necessary to take hold of a retracted or flat nipple, the finger should be protected by sterilised gauze. The danger from the child is from pus escaping from the boils, pustules, or sore eyes. The pustular eruption on the neck and face of the child resulting from the easy inoculation of its tender skin with pus germs, is a source of great danger; for the unobserved rupture of a single pustule, and the scattering of its bacteria, is the most common source of infection of the nipple. The management consists in the careful opening of each pustule when it is ripe, the surrounding skin having been thoroughly washed with alcohol, and the evacuation of the matter, leaving the open pustule for some time covered with cotton saturated in alcohol. If the open pustule is on the face, it may be closed with a small drop of collodium. When the face has been contaminated with matter from sore eyes it should be carefully washed before nursing. If one is uncertain how well the washing is done, it is safer to use a nipple shield until the danger is past. Suppuration in the glands of Montgomery, while not very common, is, while it exists, an important source of danger. Some mechanical injury produced by the nursing child, or by a badly fitting nipple shield, may set up an infectious process. The proximity of the nipple makes such a suppurating gland dangerous. It should be opened like the pustule on a child, and should then be sealed with collodium during nursing.

The general precautions consist in washing the nipples with clean water before nursing, and washing them after nursing with 75 per cent. alcohol, to protect the nipple abrasions from accidental infections from the mouth or skin of the child, and in covering the nipple always with sterilised gauze laid over the breast or attached to the shirt, to prevent contamination with soiled garments or bedclothes. As a disinfectant, alcohol is chosen, because it is harmless to the child, and at the same time fairly efficient. Other disinfectants, like carbolic acid or sublimate, cannot be used on account of the danger of poisoning the child. The popular boric acid is of very little disinfectant value, and is practically worth no more than water. The liability of the nipple to abrasions and wounds depends considerably upon its shape, size, and formation. The most serious wounds, like the deep transverse and perpendicular fissures, are due to malformation of the nipple. When a nipple is small and

not easily grasped, or when, because of the small size of the openings of the ducts, the milk flows slowly, the child must pull very hard on the nipple, and the chances for the production of abrasions are increased. The length of time that the child is at breast is also important. If the child is nursed for half an hour, or one hour, or lies at the breast practically all night long, the nipple is, of course, macerated, and wounds are easily made and infected.

For prevention of wounds of the nipple, as well as for their cure, the nipple shield is of very great importance. Properly made and used, it not only saves the mother from much suffering, but also protects her from the dangers of infection. Attention should be given to the care of the nipple shield that it may not become a source of danger. The nipple should be removed and thoroughly washed after each nursing. After washing its outside, it should be turned wrong side out, and the inside thoroughly washed. Then it should be dried with clean gauze and placed, together with the shield, which has also been thoroughly washed with running water or boiled, in a piece of clean gauze. The common practice of putting the shield unwashed into a cup of boric-acid solution and letting it stand for hours is an abomination that should not be tolerated.

The appearance of the symptoms of chills and fever generally indicates a deep infection of the breast. When this appears, nursing from the affected breast should be entirely stopped, and the breast should be supported and put at rest by a proper bandage. Treated in this way, from 80 to 90 per cent. of all breast infections will terminate without abscesses. The nipples will heal, and the infective process will be localised and controlled by nature's inflammatory reaction. Should an abscess form under this plan of treatment, which will happen very rarely, it will be small and confined to one lobe, or part of a lobe.

A very valuable adjuvant to the treatment of breast infection is the application of cold by means of the ice-bag. Under this plan of treatment we shall find, in almost every case, that the pain has largely disappeared in twenty-four hours, and at the end of from forty-eight to seventy-two hours that the local tenderness has disappeared, and the nipple is healed. The ice may now be removed and nursing resumed, the child being allowed to stay at the breast not more than four or five minutes. If nursing increases the pain it must of course be stopped for one or two days more. If, in spite of this treatment, some tenderness continues or reappears after a few days, and if suspicion of fluctuation exists, with perhaps a slight increase in temperature, we must suspect the presence of pus. This question can be easily and safely determined by the use of a proper hypodermic needle. If an abscess is present, however small, it



should be opened at once. If we are in doubt as to the presence of an abscess, a continuance of the bandage support and the ice-bag can do no harm, and this is the best possible method of limiting the abscess formation and controlling the symptoms of pain and tenderness, until the diagnosis, and the need of an operation, can be definitely established.—*New York Medical Journal*, January 12, 1901.

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### 130.—ON THREE CASES OF PRIMARY AMENORRHŒA.

By JOHN BENJAMIN HELLIER, M.D.,

Obstetric Physician to the Leeds General Infirmary, &c.

Cases of primary amenorrhœa due to anatomical defect are very uncommon.

*Case 1.*—Case of primary amenorrhœa due to rudimentary, bifid, unsymmetrical uterus.—M. B., aged 39 years, single. The external genitals were normal and well developed; the vagina was normal, and the vaginal portion of the cervix presented a normal appearance. The patient was thin and delicate looking, but had no serious illness; she had suffered a good deal from headache, but had had no menstrual molimina and no periodic symptoms.

*Case 2* was a similar case. G. J., aged 21 years, was admitted into the Leeds infirmary, June 22, 1900, because she had never menstruated. She was a young woman in fairly good general condition, with moderately well developed mammæ and normal external genitals, pubic hair being present. During the previous twelve months she had complained of a good deal of pain in the abdomen and back, and in the left mamma and left thigh; had complained also of headache and constipation, but no periodicity had been noticed in her symptoms. On June 23 she was carefully examined under ether. The vagina was normal, and the vaginal portion of the cervix was normal in position, but on making a combined examination with one finger in the anterior vaginal *cul-de-sac* and one in the rectum, the two fingers seemed to meet just above the cervix, and the first impression was that the uterus was extremely rudimentary, and the fundus absent. But it was found that the sound would pass two inches into a very thin-walled cavity towards the right. On seizing the cervix with vulsellum forceps, and having it held down by an assistant, and then making a combined recto-abdominal examination, the following condition was made out. The uterus was bifid, the right side being more developed than

the left. The broad ligament on each side could be felt converging to the drawn-down cervix. The sound could be passed to the right and not to the left, and the appendages could easily be felt on the right. The uterus was easily dilated to No. 10 Hegar. There was no sign of cystic swelling in the pelvis. Hence the diagnosis was made of uterus bifidus (bicornis-unicollis), with the left half rudimentary. The existence of any menstrual retentio being thus negatived, the patient was sent out, taking a mixture of sulphate of iron with tincture of *Senecio Jacobæa*.

*Case 3.*—Imperforate hymen with hæmatocolpos and hæmatometra.—L. S., aged 15, was admitted into the Leeds infirmary April 7, 1900, on account of a swelling in the vulva which had been accidentally discovered by her mother. No history of menstrual molimina, no dysuria, no difficulty in defæcation. On vaginal examination the vulva was distended and the labia separated by a swelling caused by the protrusion of the imperforate hymen, which was bulged out by accumulation of fluid. On rectal examination a fluctuating tumour was found to fill the pelvis. The abdomen was occupied by a cystic swelling which rose out of the pelvis and reached above the navel, and which gave a distinct thrill on palpation. On April 18 a large aspirator trochar was inserted through the hymen with due antiseptic precautions. In thirty-five minutes six pints of dark red gelatinous fluid drained away: then a circular piece of hymen was excised. The cavity was well washed out with boric acid lotion, and a rubber drainage tube was inserted; no anæsthetic used, no pain felt. Vaginal examination made April 25.—The finger passes into a large roomy cavity formed by lax vaginal walls. The os uteri can just be reached on bimanual examination, the cervix admitting the finger. The uterus can be felt anteverted just below the navel and somewhat above the normal size. October, 1900.—Patient is reported to be in excellent health, and to have had three normal periods since discharge.

*Remarks.*—This case shows in a remarkable manner that a very great menstrual accumulation may develop with practically no symptoms. It also shows how large a tumour can be formed of the distended vagina apart from the uterus. Here the hæmatocolpos reached above the navel. It has long been known that the incision of an imperforate hymen to evacuate retained menses is beset with serious dangers, and that this is still true to some extent in spite of the introduction of antiseptic methods. We are now, we believe, in a position to say that the most serious danger arises when hæmatosalpinx is present as well as hæmatocolpos and hæmatometra. The danger is twofold. Firstly, the thinned out, distended oviduct has often



contracted adhesions, and may rupture when the great mass of accumulation is liberated. Secondly, the hæmatosalpinx is apt to become septic. This is due to the fact that it does not contract and empty. A hæmatocolpos can be easily drained and irrigated. A distended uterus contracts well, but a distended oviduct has little power to expel its contents. Hence a very practical point in treatment is established. If hæmatosalpinx is present it is better to perform abdominal section and to remove the tubes. The tubes under the circumstances are of little value. It is not likely that they would ever be functionally active. Their removal by operation greatly improves the prognosis in the worst cases. This view is, we believe, held by the best authorities to-day.

The old theory as to the relation of hæmatosalpinx to hæmatometra was that the tubes were dilated by the back pressure. The adhesions and traces of inflammation found around the tube sacs were considered to be due to hemorrhage into the peritoneal cavity. Now the tendency is rather to work upon the hæmatosalpinx as the consequence of inflammation and not the cause. Back pressure would not cause hæmatosalpinx unless the ostium abdominale were occluded, and intra-peritoneal hemorrhage is more likely to be absorbed than to set up adhesions. Some have thought that atresia of the hymen is to be ascribed rather to adhesion and occlusion of a lumen originally pervious than to non-development. In non-congenital cases infective vulvitis and vaginitis in infancy and childhood might, it is thought, bring about such a condition. In regard to congenital atresia, some have even thought that an antenatal inflammation in the genital tract may be the cause of this and of some other congenital atresia. This hypothesis presents difficulties and lacks any definite proof. The subject needs further investigation. A microscopic examination was made of the circular portion of membrane excised. It showed no trace of cicatrix. It showed a well-defined layer of mucous membrane on each surface, with a layer of fibrous tissue between.--*Quarterly Medical Journal, February, 1901.*

### 131.--GONORRHŒA AND THE PUERPERIUM.

By ARNOLD W. LEA, M.D., F.R.C.S., Manchester.

[Dr. Lea (*Trans. of North of England Obstetrical and Gynæcological Society*) analyses fifty cases:]

Noeggerath in 1872 first drew attention to the influence of gonorrhœa on the puerperium, and since that time many observers have recorded their deductions from cases. Among

these may be mentioned Sanger, of Leipzig, who investigated 230 cases, and found disease of the appendages in 15 per cent. He concluded that gonorrhœa might complicate the puerperium in two ways : (1) By a mixed infection—that is, a septic infection is added to a previously existing gonorrhœa ; (2) by an ascending infection of the uterus and the tube due to gonococcus entirely. Kroner, of Breslau, based his conclusions on the fact that ophthalmia neonatorum occurring a few days after birth is evidence that gonorrhœa is present in the mother at the time of delivery. Out of 91 cases seven gave clear evidence of gonorrhœal infection at the lying-in period, and 35 others had some doubtfully caused pyrexia. Bumm showed that the gonococcus was often to be found in the lochia of lying-in women from the third to the eighth day. Kronig published nine cases in which he had cultivated the gonococcus on agar serum tubes from secretions obtained from the puerperal uterus in sterilised glass tubes. All the cases but one had pyrexia, and two had serious local lesions. Later, Kronig stated that he had been able to cultivate the gonococcus in 50 out of 179 cases of pyrexia in the puerperium. Other cases are cited by Leopold, Schumacher, Fritsch, Veit, and Curnston.

From this abundant literature it is clear that gonorrhœa does cause puerperal infection, and also, as many of the cases mentioned were subject to a mixed infection, it is not possible to state precisely what part the gonococcus plays when not alone. Bumm holds that the gonococcus alone cannot cause suppuration in connective tissue, and believes that if parametritis follows a gonorrhœal infection, the infection must be a mixed one. There is no doubt that an old or latent gonorrhœa may be resuscitated by the puerperal state, and that ophthalmia neonatorum may be caused by an apparently cured previous attack of gonorrhœa. The gonococcus will live a very long time in living tissues, and under the increased vascularity and glandular secretion of pregnancy may take on renewed growth and cause a recurrent attack of the disease. The symptoms of puerperal gonorrhœal infection are not characteristic. In some a purulent endometritis may arise, symptoms sometimes appearing as early as the third day. Often the disease spreads no further, but may extend to the tubes and peritoneum. All observers agree that the symptoms of true gonorrhœal are milder than those of septic infection. The author bases his observations on clinical grounds only, and purulent ophthalmia in the infant within three days of birth is taken as evidence of the presence of gonorrhœa. Purulent ophthalmia cannot be caused by normal lochia or vaginal discharges, and is generally accepted as pathognomonic of gonorrhœal infection. Fifty cases are analysed and three others added in which fatal puerperal infection occurred in women with a previous history of gonorrhœa.



The cases fall into two groups: (1) Those in which the temperature never rose above 100.4 deg., and (2) those in which there was evidence of infection. In the first group, out of 32 women four cases showed evidence of pelvic inflammatory mischief, one had purulent endometritis, and two had slight parametritis, all, however, without pyrexia, and all made uninterrupted recoveries. In the second group with morbid puerperium 18 cases had pyrexia. In 13 the cause of the pyrexia was purulent endometritis, without any evidence of extension into the muscular wall of the uterus or Fallopian tubes; all made good recoveries. Five cases had pyrexia, accompanied by evidence of acute pelvic peritonitis. These were seriously ill, and had the characteristic clinical signs of pelvic peritonitis. Three, after some weeks' illness, made partial recoveries, and were lost sight of. One had chronic tubal disease, and the other was operated on for chronic metritis and double pyo-salpinx three months later. Of the three fatal cases added, the first was infected twelve months previously by her husband. Pyrexia commenced with a rigor during the first stage of labour, and the pyrexia persisted afterwards. Symptoms of peritonitis and pericarditis came on, and death occurred probably as the result of the rupture of an ovarian abscess or pyo-salpinx during labour. The second showed a definite peritonitic mass on the ninth day, which was treated by vaginal section. Several ounces of pus were evacuated from the left Fallopian tube, but the patient died twenty-four hours later from septicæmia. The husband was under treatment for gonorrhœa at the time. The third case, seen on the eighteenth day, had general peritonitis. The abdomen was opened, and two pints of free pus were let out. Drainage was adopted, but after some improvement at first, the patient died two days later. The patient had had gonorrhœal vulvitis and vaginitis during pregnancy. No bacteriological examination was made in these cases, so the evidence of gonorrhœa can only be inferred on clinical grounds.

The following conclusions may be formulated as to our knowledge of the relation of gonorrhœa to the puerperal state:— (1) Ophthalmia neonatorum within three days of birth may be accepted as evidence of gonorrhœa in the mother. (2) The infection is often a mixed one, but it has been definitely proved that the gonococcus may be found in the uterus during pregnancy and in the puerperal state. (3) The gonococcus may cause severe pelvic inflammation in the absence of any external source of infection. (4) Many women with active gonorrhœa may pass through a normal puerperium (60 per cent. in the author's cases). (5) Infection is favoured by (i) lacerations, (ii) forceps, (iii) manual interference, (iv) prolonged labour, and is more likely to

occur in primiparæ. (6) The types of infection may be: (a) Purulent endometritis, (b) acute pelvic peritonitis, (c) acute parametritis, (d) general septicæmia—generally the result of a mixed infection. (7) Pregnancy, labour, and the puerperium are likely to cause a recrudescence of an old gonorrhœal infection. (8) In some cases an old gonorrhœal lesion of ovaries, tubes, or peritoneum may become virulent during labour. (9) There is nothing characteristic of “gonorrhœal puerperal infection” as compared with “septic puerperal infection.” (10) The diagnosis of “gonorrhœal puerperal infection” depends on (a) the previous history, (b) the presence of a purulent vaginal discharge during labour, (c) the development of purulent ophthalmia within three or four days of birth, and (d) the discovery of gonococci in the uterine or vaginal secretion. (11) The prognosis is generally good as regards life. (12) Recovery is often incomplete.

With regard to treatment, vaginal discharges during pregnancy should be investigated for gonococci and treated by either glycerine ichthyol (10 per cent.) or protargol (10 per cent.) solutions on tampons. During labour the vagina and cervix should be carefully swabbed with an antiseptic solution. During the puerperium vaginal douches should be given with great care for fear of infecting the endometrium. Purulent endometritis is to be treated by swabbing out the uterus with an efficient antiseptic, such as biniodide of mercury 1 in 500 in alcohol. Curetting is not necessary unless there are retained products of conception. Pelvic peritonitis must be treated by absolute rest, vaginal douching, and symptomatic medication, and it may be necessary to perform vaginal or abdominal section in order to evacuate serous or purulent collections. — *Abstract in Treatment, January, 1901.*

### 132.—THREE CASES OF SARCOMA OF THE UTERUS.

By E. OCTAVIUS CROFT, M.D. Durh.,

Honorary Surgeon to the Hospital for Women and Children,  
Leeds, &c.

[From Dr. Croft's paper :]

Primary sarcoma of the uterus is undoubtedly a very uncommon disease, but in all probability its rarity is considerably over-estimated. Such a large number of cases of malignant disease of the uterus come under observation only when the disease is



so far advanced that anything more than palliative treatment is impossible, and therefore a careful pathological examination of the nature of the growth is not made, and it is possible that many of these cases may have been of sarcomatous rather than of carcinomatous malignancy. Mr. Roger Williams in his recent book states that his analysis of 2,649 consecutive cases of primary uterine neoplasms comprises only two examples of sarcoma to 1,571 cancers. He does not state whether these were all confirmed pathologically, but I presume that they were. Recently, however, interest has been aroused in this disease, and cases are being recorded more frequently. The following cases are therefore, I think, worthy of reporting, especially as they exemplify three very distinct varieties of the disease both in their clinical and pathological features :—

*Case 1.*—The patient was a married woman, aged 39 years, who had had one child, and who had had no abortions. The patient was married in 1893. About six months after her marriage the menstrual flow increased, and she was operated upon for something which was said to have protruded from the vulva when she strained. In 1895 the menorrhagia having returned, she came under my care at the Hospital for Women and Children at Leeds, and I found and removed several polypi from the cervix and the uterine cavity, which was scraped. These growths had all the appearances of ordinary mucous polypi. The condition of the patient so far improved that a few months afterwards pregnancy occurred, and her only child was born, after a normal labour, at the end of 1896. About six months after confinement, and on two subsequent occasions, some polypoid growths were treated by various surgeons, on the last occasion the operation being stated to have been radical. On May 13, 1899, the patient returned to the hospital for urgent bleeding and severe anæmia. The uterus was found to be enlarged, and a polypoid mass of growth of about the size of a fist occupied its cavity. This was scooped away, and the cavity was cleansed and packed with gauze. It was then found that there was a further growth in the left wall of the uterus. Examination of the tissue which had been removed proved it to be undoubted sarcoma. When her general condition had improved, ether was given with a view to radical operation if found possible. The disease was clearly irremovable. The growth then slowly increased, and occasional attacks of bleeding required treatment by packing. The patient's health steadily failed, and she died from exhaustion in September, 1900. A noticeable and fortunate circumstance in the case was an almost entire absence of pain throughout. There were no symptoms or signs indicating the presence of secondary growths in other organs. The nature of the growth, which was examined on several occasions, proved to be an undoubted round-celled sarcomatous infiltration of the uterine tissue. The fact, however, that the polypi which were removed before the pregnancy were apparently innocent, and that the malignancy of the disease asserted itself a few months after confinement, is a point of great interest. If the exact nature of the growth had been ascertained on its recurrence

after the confinement, it is possible that a radical operation (hysterectomy) at that time might have saved the patient. The condition was only discovered when secondary growths rendered operation impossible.

*Case 2.*—The patient, a widow, aged 66 years, was the mother of four children. She complained of very little pain until about six weeks before I saw her, but during that time the pain in the lower abdomen had been severe. There had been marked loss of flesh recently. The uterus was found to be generally enlarged, its fundus reaching two or three inches above the pubes, and there was evidently some peritoneal effusion and adhesion. The interior of the cavity of the uterus was found to be roughened and irregular with new growth, which was specially abundant near the fundus. This part was necrotic, and it easily broke down. Owing to the presence of the peritonitis and the general condition of the patient, extirpation was impossible. The uterine cavity was cleansed as far as possible of foul tissue, and was packed with iodoform gauze. Portions of the growth were preserved for examination. The patient did not improve, and eventually she died from the peritonitis. The growth consisted of a very vascular sarcoma, consisting of bundles of spindle cells, with many vessels and much blood.

*Case 3.*—A married woman, aged 32 years, the mother of four children, was sent to me in June 1898. The fourth and last child was born two years before I saw her, and she had never been well since, but always anæmic and weak. The child was suckled for 18 months, and soon afterwards menstruation returned two or three times, and then followed a flooding. The uterus then rapidly enlarged, and the flooding recurring, a vesicular mole was diagnosed, and the uterus was cleared by Dr. McLean, of Yeadon. The uterus shrank and the bleeding ceased, but a watery discharge continued, increased, and became offensive and occasionally bloody. When sent to me the patient was extremely anæmic, and her temperature was 103 degs. F. The os was patulous, the cervix was soft, and the uterus was enlarged, the sound passing three and a half inches, and freely moveable. Under ether the uterine cavity was explored. The finger detected a rugged, friable mass attached to the upper and posterior part of the uterine wall. It gave the impression of a malignant growth. The free portions were carefully removed with a scoop, and the cavity was irrigated and packed with iodoform gauze. The growth was preserved for examination. The septic condition subsided, and the patient improved. The growth was examined independently by several pathologists, who all agreed that it was sarcoma. I examined the patient a few months ago—that is, just two years after the operation—and I found her to be free from disease and in good general health. I have recently heard that she continues well. The uterus when removed showed no signs of growth externally. On opening its cavity by a vertical incision through the anterior wall, the disease was seen to consist of a small, reddish, lobulated, sessile growth, situated on the upper and posterior part of the uterine wall, and projecting towards its cavity. The other portions of the uterine wall presented no naked-eye evidence of disease. —*Lancet*, May 4, 1901.



## 133.—OPO-THERAPY IN GYNÆCOLOGY.

By JOHN PHILLIPS, M.A., M.D. Cantab., F.R.C.P. Lond.,  
Obstetric Physician to King's College Hospital, &c.

Opo-therapy, which seems a preferable word to organo-therapy, was created by Landouzy to designate the science which treats of curative elements found in the "internal secretion" of certain ductless glands. As the latest craze seems to be the treatment by animal extracts it behoves us carefully to consider whether there is any real ground for supposing that such treatment is efficacious, and if so on what lines and in what manner it should be carried out. The three extracts which must be considered would appear to be (1) thyroid extract; (2) ovarian extract; and (3) extract of the mammary gland.

(1) In considering the first it need only be said that ample clinical evidence shows that certain nutrition disorders associated with pelvic disturbance are undoubtedly benefited by this treatment; moreover, the dose of the drug is known and its toxic effects are recognised. It is certainly of value in amenorrhœa so often found to accompany extreme obesity and as a complication of myxœdema; according to some authorities it is beneficial in the hemorrhages of fibroid tumours of the uterus.

(2) In considering the treatment by ovarian extract much difficulty must be encountered at the onset, as we are dealing with a drug the dosage and the toxic effects of which are so far quite an unknown quantity. Dr. Régis seems to have been one of the earliest authorities to record the use of ovarian juice. He prescribed it in a case of mania following the removal of both ovaries and tubes; the result was most successful, although many injections were necessary. Leopold Landau gives his support to this mode of treatment, and since then many original articles (with detailed observations) have been written recommending its adoption in increasingly numerous varieties of female disease.

The methods of administration of ovarian extract appear to be three: (1) that followed by Knauer who grafted the fresh gland into the peritoneum or under the skin; (2) Brown-Séquard's method by subcutaneous injections of the organic extracts; and (3) the method recommended by Horwitz and others and now in general use, viz: administering the extract by the mouth or the rectum, either in a natural state, in the form of "overine" tabloids, or as a glycerine extract. With the thyroid extract both dose and toxic effects are well known, but so far no satisfactory evidence has been brought forward as to the effects of ovarian extract. Five-grain tabloids have been given as a rule thrice daily, and I have prescribed as many as

three tabloids thrice daily without any toxic effects or any amelioration of the symptoms arising. Jayle has observed zona and Schuster general urticaria after prolonged ingestion of ovarian extract. I saw one case of the latter, of which there was no doubt, but I am strongly of opinion that the rash was due not to the drug, but to some impurity in the vehicle of administration. I have given ovarian extract in many diseases (often experimentally), but in none have I obtained any definitely satisfactory results, with the exceptions of the natural and the artificially induced menopause. In eight cases of menopause the distressing headaches and flushes were certainly relieved, but whether this was the possible result of suggestion or not I am unable to say; Krusen, after a three and a half years' experience, is of a somewhat similar opinion. He says that in the treatment of amenorrhœa and dysmenorrhœa it is useless, and he noticed no appreciable result in its exhibition during the natural menopause. He thinks that the best results in opo-therapy are attained by the use of the thyroid and adrenal glands, and that the ovary in function is in no sense analogous to these organs. Julien finds the drug, on the contrary, of great value in post-operative menopausal symptoms, amenorrhœa, dysmenorrhœa, anæmia, and chlorosis, and osteomalacia. He gives full notes of 41 cases in support of his assertions.

(3) The administration of mammary abstract is surrounded by still greater uncertainty. It is best given in the raw state, cow's udder being cut into thin slices and made into a salad. This method has been frequently prescribed and carried out by Freudenberg. No toxic or other effects beyond a suspicion of improvement in lactation during its ingestion have been recorded.—*Lancet*, May 18, 1901.

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The Ideal Tonic  
in Convalescence.

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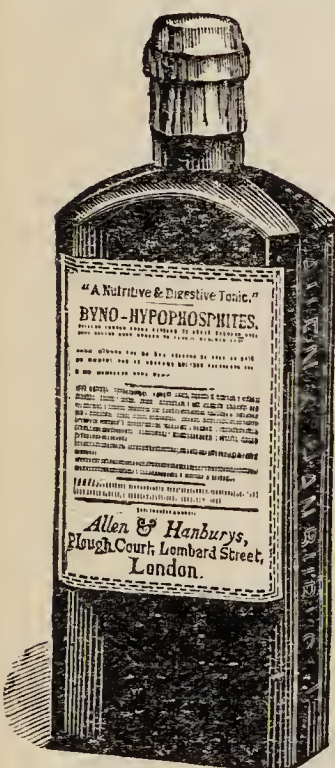
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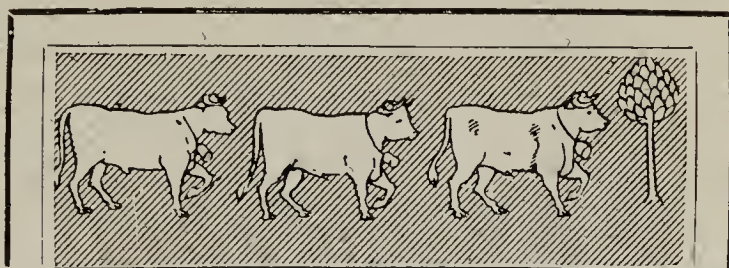
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